IMPROVE REPORTING FOR COSTS RELATED TO ONLINE HIGHER EDUCATION

The majority of college and university students attend all of their courses on physical campuses. However, the number of students enrolled in at least one distance education course at Texas public institutions of higher education increased 26.8 percent from fiscal years 2013 to 2017. As enrollment has increased in online higher education, institutions have growing interest regarding whether online courses can lead to student success, increase access, and decrease costs for institutions or their students. Research shows that online classes may increase access to education for nontraditional students, decrease certain fees, and enable students to continue working while enrolled in school. However, it is unclear whether students pay less for online education. As institutions invest in online education capabilities, they also may increase tuition and add technology fees.

As policy makers seek to decrease the financial burden of higher education on students, states have examined the tuition and institutional costs of online courses. Several entities in Texas have conducted studies to better understand the delivery of online education, including the Texas Higher Education Coordinating Board, the State Auditor's Office, and the Legislative Budget Board. These studies found results that were consistent with previous findings, finding that it is difficult to track and compare expenditures of online education across institutions. Many institutions use the same faculty, staff, and technological resources for online and on-campus courses. Additionally, institutions' accounting systems do not always separate expenses by mode of instruction. A standardized accounting method for costs by mode of instruction across institutions would enable policymakers and administrators to better evaluate the costs of delivering higher education as the modes of instruction evolve.

FACTS AND FINDINGS

♦ In spring 2017, 7.0 percent of university undergraduate students enrolled in all of their courses through online distance education, compared to 15.2 percent at community and technical colleges. Overall, 11.9 percent of university, community, and technical college students in Texas were enrolled exclusively in online undergraduate courses.

♦ The Texas Higher Education Coordinating Board's 2013 Report on the Cost of Distance Education found that it was difficult to collect uniform cost information. Institutions use diverse accounting practices, and the integration of technology and teaching across various types of courses, including on-campus instruction, varies.

♦ A Legislative Budget Board survey found that 91.1 percent of surveyed Texas institutions of higher education do not track expenditures for online and on-campus courses separately.

CONCERNS

♦ Institutions of higher education are not required to measure the cost of online education compared to traditional delivery methods. Despite continued growth in enrollment and semester credit hours associated with online education, most institutions do not track costs separately. Consequently, limited data is available to determine whether online education results in cost savings or additional expenses for the state and institutions.

OPTION

♦ **Option 1:** Amend statute to require the Texas Higher Education Coordinating Board to develop an accounting method that could be used by general academic institutions and public community and technical colleges to standardize and separate the reporting of expenditures and revenue related to delivering education online and on-campus. The agency would be required to report to the Legislature and the Legislative Budget Board, no later than September 1, 2020, the methodology and costs associated with implementation of the accounting method.

DISCUSSION

Distance education encompasses numerous modes of instruction, including study abroad, dual credit, online courses, and interinstitutional course agreements. In fall 2017, statewide distance education courses made up 19.1

FIGURE 1
STUDENTS AT TEXAS INSTITUTIONS OF HIGHER EDUCATION ENROLLED ONLY IN UNDERGRADUATE COURSES IDENTIFIED AS FULLY DISTANCE EDUCATION, SPRING 2017

INSTITUTION	TOTAL STUDENTS	STUDENTS ENROLLED IN FULLY DISTANCE EDUCATION	PERCENTAGE ENROLLED IN DISTANCE EDUCATION
Public Universities	471,862	32,879	7.0%
Community and Technical Colleges	703,447	107,134	15.2%
Total	1,175,309	140,013	11.9%

SOURCE: Texas Higher Education Coordinating Board.

percent of total semester credit hours at public universities and 36.7 percent at community and technical colleges.

The Texas Higher Education Board (THECB) categorizes distance education courses that are delivered primarily online as "fully distance education" courses. To be included in this category, mandatory on-campus attendance cannot exceed 15.0 percent of instructional time. Mandatory on-campus attendance may include orientation, laboratory time, exam review, or an in-person test. In a hybrid or blended course, from 50.0 percent to 85.0 percent of the planned instruction occurs when the students and instructor are not in the same location. Fully distance education, or online education, represents the majority of all distance education offerings at Texas public universities, and nearly half of all distance education semester credit hours at community and technical colleges. **Appendix A**, **Figures A–1** and **A–2,** show the amount of fully distance education semester credit hours as a percentage of overall distance education, and as a percentage of total semester credit hours for Texas public universities and state, community, and technical colleges.

Although online education is the most common form of distance education, it represents a small share of overall semester credit hours. In fall 2017, 14.3 percent of total statewide credit hours at Texas public universities were online, compared to 18.3 percent of total statewide credit hours at community and technical colleges. Particularly for Texas public universities, the percentage of total credit hours of online education varies widely by institution. These institutions share common goals of instruction, research, and public service, and each also has a unique regional or statewide mission. For example, in fall 2017, fewer than 4.0 percent of total semester credit hours attempted at the University of Texas (UT) at Austin were primarily online. In comparison, nearly 50.0 percent of total credit hours attempted at the University of Texas of the Permian Basin were offered online. UT at Austin is a research university with more than 50,000 students enrolled during fall 2017;

UT of the Permian Basin is a master degree-granting institution with approximately 7,000 students.

In terms of enrollment, as shown in **Figure 1**, 7.0 percent of Texas university undergraduate students were enrolled only in fully distance education classes in spring 2017, compared to 15.2 percent at community and technical colleges, accounting for 11.9 percent of students overall. The number of students enrolled in at least one distance education course at Texas public institutions of higher education increased 26.8 percent from fiscal years 2013 to 2017. As a result, these students require resources for online and on-campus classes.

LEGISLATIVE BUDGET BOARD ONLINE HIGHER EDUCATION SURVEY

In an effort to better understand the context of online higher education in Texas, Legislative Budget Board (LBB) staff surveyed public universities and state, community, and technical colleges. The survey was based in part on the State Auditor's Office (SAO) 2011 report on distance education. SAO surveyed the 37 public general academic institutions of higher education in Texas that offer undergraduate degrees and asked about their experiences implementing distance education at various locations, including on-campus and electronic media delivery. In 2012, LBB staff completed a similar overview of online distance education at Texas community college districts, receiving 40 complete responses for a response rate of 80.0 percent.

In September 2018, LBB staff sent an updated survey that focused on the cost of delivering online education. This survey specifically asked institutions about their online higher education programs, as opposed to distance education overall. Among the 37 public universities, or general academic institutions, LBB staff received 35 responses, one of which accounted for a system with two universities. Forty-four state, community, and technical colleges responded to the survey. Among the 50 community college districts, one district responded at the campus level, and others responded

FIGURE 2
YEARS THAT TEXAS INSTITUTIONS OF HIGHER EDUCATION HAVE OFFERED ONLINE COURSES
**SEPTEMBER 2018**
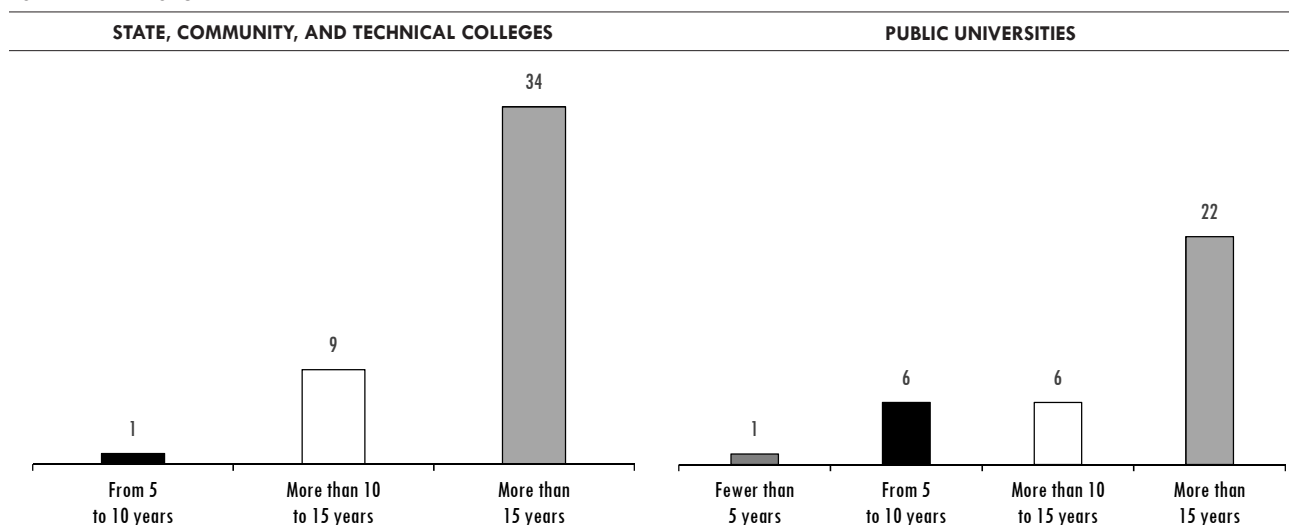
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

as a system. Four community colleges responded at the system level, representing 19 campuses. The technical colleges also responded as a system, representing six individual campuses. **Appendix A**, **Figure A–3,** shows institutions that responded to the survey.

The results of the survey provide an overview of online education, with particular emphasis on the cost of providing online courses. Many Texas institutions are accustomed to offering online education. As shown in **Figures 2** and **3**, a majority of institutions surveyed have offered online courses for more than 15 years, and more than 90.0 percent of surveyed institutions and systems seek to grow the number of online classes offered.

The LBB's 2018 online higher education survey had similar findings regarding tuition to a 2015 survey conducted by THECB's Learning Technology Advisory Committee (LTAC). LTAC used the survey results to gain a better understanding of online education and the use of learning technologies. Nearly half of Texas public institutions of higher education responded to LTAC's survey, along with seven independent colleges and universities. Among institutions surveyed by LTAC regarding price, 49.0 percent of institutions reported that they had the same tuition and fee structures for online courses, and 42.0 percent reported that tuition costs were greater for online courses. **Figure 4** shows that 96.2 percent of responding institutions in the

FIGURE 3
PERCENTAGE OF SURVEYED TEXAS INSTITUTIONS OF HIGHER EDUCATION SEEKING TO GROW THE NUMBER OF ONLINE COURSES OFFERED
**SEPTEMBER 2018**
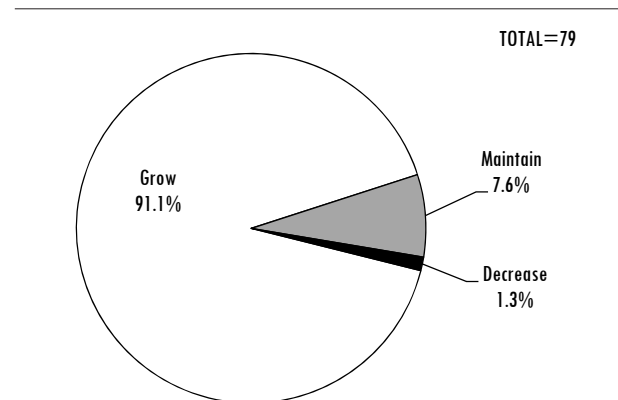
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

LBB's survey charge the same tuition or more for online courses compared to on-campus courses.

With enrollment growing and plans for expansion, Texas institutions have a vested interest in understanding how online courses affect the higher education system. The current Texas Higher Education Strategic Plan, *60x30TX*, outlines the priorities of the state's higher education system. The overarching goal is that, by fiscal year 2030, 60.0 percent

FIGURE 4
TUITION AND FEES OF ONLINE COURSES COMPARED TO ON-CAMPUS COURSES AT TEXAS INSTITUTIONS OF HIGHER EDUCATION, SEPTEMBER 2018
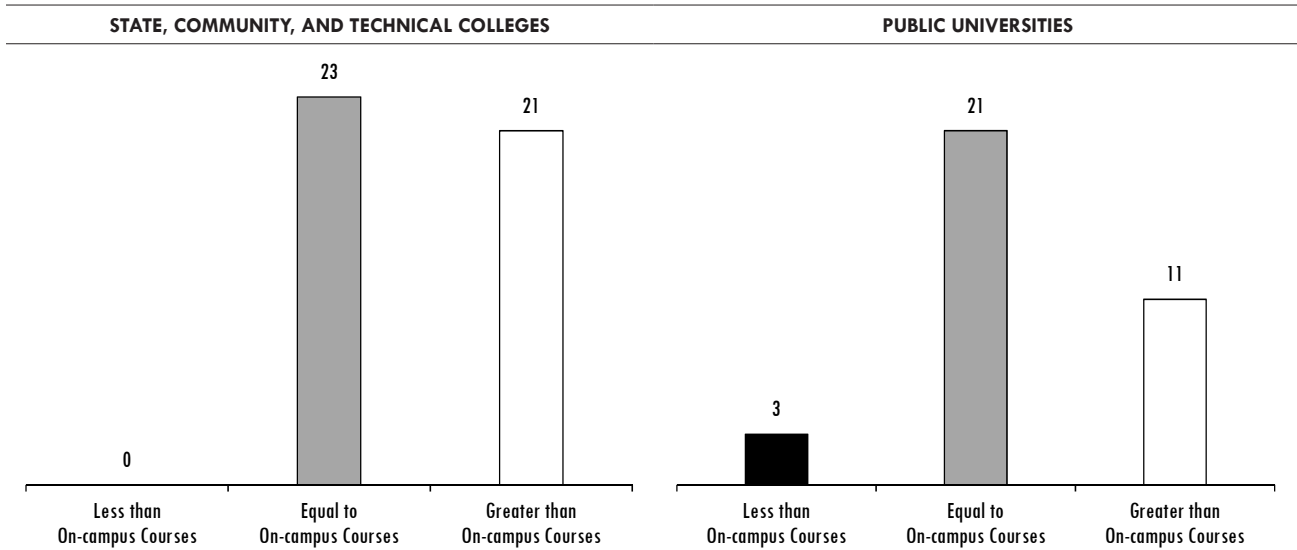
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

of the population ages 25 to 34 in Texas will earn a certificate or degree. One institution responding to the survey reported that online courses enable it to serve older students and nontraditional students, and other institutions are seeking to provide additional options through online learning to more traditional students on campus. *60x30TX* recognizes that enrolling in college can mean attending courses on-campus or online. As a result, online courses have the potential to increase access to education and the number of degrees earned.

The *60x30TX* plan also focuses on student debt with its goal that, by fiscal year 2030, undergraduate student loan debt will not exceed 60.0 percent of first-year wages for graduates of Texas public institutions. Online education may decrease costs for students by eliminating the need to travel to campus or secure childcare. However, institutions may need to invest in technology and course development, which can increase costs that are passed on to students. As a result, questions remain about whether online education can lead to cost savings for students and institutions, or whether the purpose of online courses is to increase access and meet demand.

DEVELOPMENT OF ONLINE COURSES IN HIGHER EDUCATION

THECB approves each higher education course based on its mode of instruction. For courses delivered online, THECB evaluates whether statewide demand for the course exists, as opposed to the demand for on-campus courses within a 50-mile radius. Before an institution adopts a new distance education course, it must submit a plan to THECB that explains how distance education fits into the institution's mission, how it will be evaluated, and what support services exist for students and faculty, among other criteria. This submission requirement applies only to institutions that have never offered distance education.

According to LBB's 2018 survey, demand is one of the most cited factors in an institution's decision to develop and deliver an online course, followed by faculty willingness to develop or teach an online course. Institutions were asked to rank which of five factors had the greatest influence on the decision to develop and deliver an online course, with a ranking of one being the most influential. Other factors included funding availability, availability of staff to provide technical assistance, and the need to purchase additional equipment. Institutions cited the need to purchase additional equipment as the least important factor when considering to develop and deliver an online course.

To maintain quality, THECB established a set of standards that institutions must use when they are developing and delivering online courses and programs. The Principles of Good Practice for Academic Degree and Certificate Programs and Credit Courses Offered Electronically include the

following guidelines for institutions developing online courses:

- it is the institution's responsibility to review educational programs and courses it provides electronically and certify continued compliance with these principles;

- academic standards for all programs or courses offered electronically will be the same as those for programs or courses delivered by other means at the institution where the program or course originates;

- student learning in programs or courses delivered electronically should be comparable to student learning in programs offered at the campus where the programs or courses originate; and

- the institution evaluates the program's or course's educational effectiveness, including assessments of student learning outcomes, student retention, and student and faculty satisfaction.

THECB is reviewing these principles, originally adopted in 1997 and last updated in March 2010, to establish a definition of effective online education and a uniform standard of assessment for Texas institutions of higher education. These principles, and the responses from institutions in LBB's survey, emphasize that demand, quality, and student success remain priorities, regardless of how a course is delivered.

DETERMINING THE COST OF ONLINE HIGHER EDUCATION

As online higher education becomes more prevalent, the impact of online courses on cost and state funding is unclear. Texas institutions of higher education are not required to measure the cost of online education compared to more traditional delivery methods, and few institutions separate their expenditures in this way, as shown in **Figure 5**. Despite continued growth in enrollment and semester credit hours associated with online education, most institutions do not track costs separately. THECB conducts an annual expenditure study that determines the average cost of instruction by program; however the study does not report a separate cost for each mode of instruction. A majority of surveyed institutions had to estimate expenditures and revenue related to online courses or were unable to separate them from other modes of instruction. Consequently, little is known about the comparative costs of developing and delivering online courses across higher education and the impact that these costs have on student tuition.

FIGURE 5
TEXAS INSTITUTIONS OF HIGHER EDUCATION THAT TRACK EXPENDITURES RELATED TO ONLINE AND ON-CAMPUS COURSES SEPARATELY
SEPTEMBER 2018
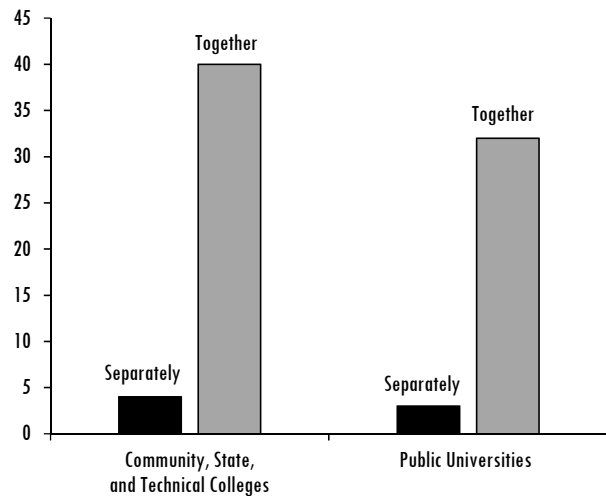
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

THECB, SAO, and LBB staff previously found that distance education-related expenditures and revenues are not readily available. Collecting cost information is complicated by the overlapping use of technology in on-campus and online courses, which makes it challenging for institutions to determine how to assign the cost of resources. In addition, definitions of distance education expenditures and revenue vary across institutions, meaning that data is not comparable. As a result, it is difficult to determine whether the state could realize savings as institutions increase the number of online courses available to students, or if it should make additional investments.

In its 2013 Report on the Cost of Distance Education, THECB found significant diversity in distance education costs, projected costs, and course effectiveness across public institutions. The agency acknowledged that it would be difficult to develop a standardized measure for calculating the cost to develop online courses across the various institutions, considering diversity in size and resources. According to THECB, institutions use the accounting categories developed by the National Association of College and University Business Officers (NACUBO). NACUBO developed these categories before the growth of online learning; therefore, the categories do not differentiate costs by mode of instruction. Consequently, many institutions do

FIGURE 6
FULL-TIME AND PART-TIME STAFF (NOT FACULTY) EMPLOYED TO DEVELOP AND DELIVER ONLINE EDUCATION, BY TEXAS HIGHER EDUCATION INSTITUTION TYPE, 2016–17 BIENNIUM

INSTITUTION	MINIMUM	MAXIMUM	AVERAGE
Public Universities (1)	0.0	70.0	10.6
Community and State Colleges	0.0	25.0	2.8
Community and Technical College Systems	0.0	70.0	31.6

NOTE: (1) One university responded for two campuses, and one university did not respond.
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

not have accounting systems programmed to report the costs of online education separately from the costs of education delivered on-campus. However, the report recommended that THECB should work with a committee of representatives from Texas public institutions to develop a cost methodology and tool for uniform data collection of online education costs. The tool should capture direct costs, such as instructional configuration, and indirect costs, such as facilities maintenance. According to THECB, the agency has not developed a uniform tool for data collection due to the complexity of the issue and the extensive staff resources it would require.

LBB staff inquired with two institutions that separate expenditures by mode of instruction to allocate resources to online learning and academic departments. Both of these institutions have developed detailed accounting codes and have tracked separate expenditures by mode of instruction for at least nine years. As educational offerings have evolved, including the development of hybrid courses, these institutions are reevaluating how to allocate costs and revenue for courses delivered through a combination of instructional modes. The allocation of resources and expenses can vary by institution. One institution has an online learning department that delivers course work and receives revenue from fully online courses. The other institution distributes distance education revenue directly to individual departments for instructional salaries. Both institutions track the revenue and expenditures of online learning resources centrally, including the institutions' learning management system, which is a virtual platform that allows faculty to manage course content, communicate with students, and track online instruction and student outcomes. However, other institutions can track this data at the department level.

COST DRIVERS IN ONLINE HIGHER EDUCATION

Although it can be difficult to track expenditures separately, institutions have identified cost drivers when developing and delivering online courses compared to on-campus instruction.

These cost drivers include faculty training, learning management systems for course delivery, technical infrastructure, and student support services. To gain a better understanding of cost, the LBB's 2018 survey asked institutions to define the major cost categories that they used to determine the actual or estimated online course expenditures for fiscal year 2017. Most respondents answered that faculty and staff salaries and associated benefits were the primary cost driver. Other reported expenses include the learning management system, marketing, and equipment. Multiple institutions cited being certified or working toward Quality Matters program certification to ensure quality and effectiveness within their online offerings. Quality Matters is a subscription-based, quality-assurance program that provides guidance for improving online courses and training for faculty and staff.

Some institutions dedicate staff to provide technical support, review online courses, and assist with instructional design and course development. However, staff at other institutions can be cross-functional and provide technical or other support services regardless of instructional methodology. **Figure 6** shows the minimum, maximum, and average number of staff reported by institutions to be assisting only with the development and delivery of online education.

Professional development for faculty that teach distance education is an additional expense for institutions, because faculty may not have formal training focused on teaching online courses. Some institutions require faculty to be trained in online course delivery, and others provide optional trainings. **Figure 7** shows the minimum, maximum, and average hours of training required before faculty can teach an online course, according to LBB's 2018 survey.

The types of faculty training also can vary by institution. **Figure 8** shows the most common forms of professional development reported by institutions, including on-campus courses, online courses, and webinars. According to survey

FIGURE 7
HOURS OF PROFESSIONAL DEVELOPMENT REQUIRED FOR TEACHING ONLINE COURSES BY TEXAS HIGHER EDUCATION INSTITUTION TYPE, 2018

INSTITUTION	MINIMUM	MAXIMUM	AVERAGE
Public Universities (1)	0.0	40.0	7.4
Community and State Colleges	0.0	72.0	10.8
Community and Technical College Systems	2.0	40.0	17.2

NOTE: (1) One university responded for two campuses, and one university did not respond.
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

responses, 39.2 percent of institutions also provide faculty incentives for teaching online courses, including stipends for teaching large classes, course development, course delivery, and attending workshops.

To offset costs related to distance education, 60.0 percent of surveyed public universities collect a distance education fee, as do 52.3 percent of state, community, and technical colleges. For students that enroll in online courses only, many schools offer exemptions for common on-campus expenses, such as recreation and student center fees. These exemptions affect a small number of students at some institutions.

Consistent with prior findings, LBB's 2018 survey found that it is difficult to measure how much institutions are spending on online education, which complicates efforts to determine the influence of online education on potential changes in state funding. However, this form of education has continued to increase, as institutions work to meet the needs of students,

and the technology will continue to evolve. Balancing the needs of students and funding of online higher education will continue to be an important topic for the Legislature.

To better understand the cost of delivering online education and more traditional delivery methods, Option 1 would amend statute to require THECB to develop an accounting method that could be used by general academic institutions and public community and technical colleges to standardize and separate the reporting of expenditures and revenue related to delivering education online and on-campus. THECB would be required to report to the Legislature regarding the costs associated with implementing the accounting method. This option would provide the Legislature with the most feasible approach to determining relative costs by mode of instruction and a realistic assessment of costs associated with its implementation. If it subsequently chose to require institutions to account for costs in this way, the Legislature

FIGURE 8
TYPES OF FACULTY PROFESSIONAL DEVELOPMENT REQUIRED TO TEACH ONLINE COURSES AT TEXAS INSTITUTIONS OF HIGHER EDUCATION, SEPTEMBER 2018
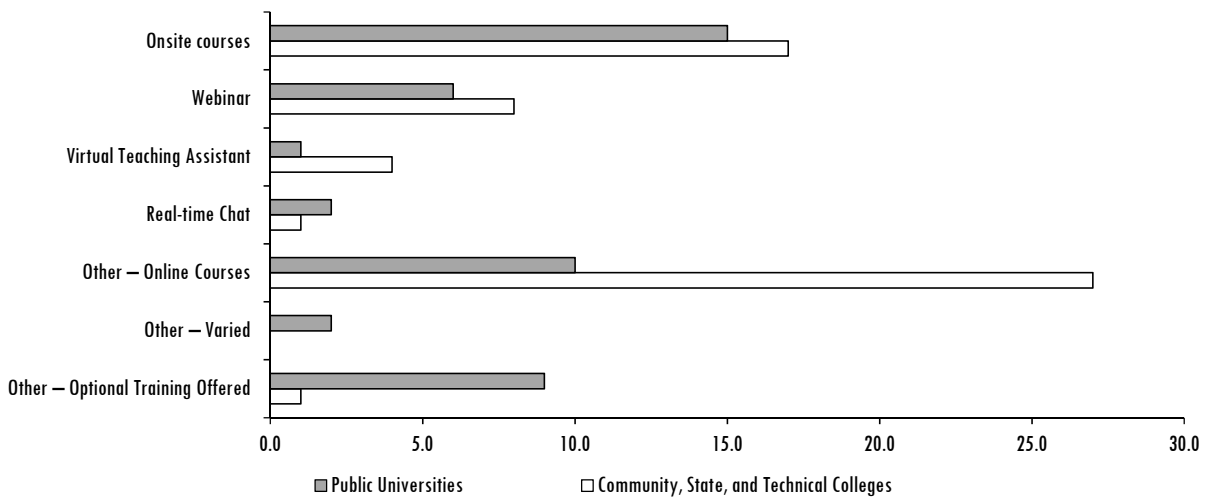
NOTE: Institutions could select multiple items. Responses marked as other were coded based on common descriptions provided.
SOURCE: Legislative Budget Board 2018 Online Higher Education Survey.

could identify a need for additional investments in online education or opportunities for savings as the use of online education continues to increase and evolve.

INFRASTRUCTURE FUNDING AND ONLINE HIGHER EDUCATION

In addition to institutions not distinguishing costs by delivery method, state formula funding for institutions of higher education also does not differentiate between online and on-campus courses.

Typically, formula funding for higher education in Texas varies by institution type and program level, and it is a means of distributing state funds to institutions for various expenditures, including faculty salaries, administration, student services, libraries, and other support. Formulas do not institute a statutory or constitutional entitlement. Informational strategies in the state budget represent how state funds are allocated. However, higher education entities, unlike other state agencies, are not required to spend appropriations within a specified strategy, with a few exceptions. Courses are weighted for general academic institutions through the Instruction and Operations formula, which multiplies the number of semester credit hours by the program level and weighted discipline, along with a standard rate based on available funding. Semester credit hours are not counted differently based on the mode of instruction in this formula. Approximately 85.0 percent of formula funds for public general academic institutions are calculated through this formula. Funding varies among two-year public institutions, including state, community, and technical colleges. Community colleges receive tuition, fee, and local tax revenues that augment appropriations of state General Revenue Funds. State and technical colleges receive General Revenue Funds based on formulas for two-year institutions allocated by either contact hours or returned valued to the state. A contact hour is a unit of measure that represents an hour of scheduled instruction given to students, of which 50 minutes is direct instruction.

As the number of online courses grows, institutions may avoid costs for building new infrastructure because these courses would not depend on available teaching space. Approximately 15.0 percent of formula funds for general academic institutions are distributed through the Infrastructure Support Formula and Small Institution Supplement. Institutions with enrollments of fewer than 10,000 receive funding through this supplement in addition to the Infrastructure Support Formula. The Infrastructure

Support Formula is calculated using a set utility rate and a rate that accounts for physical plant, grounds, maintenance, and custodial services. This amount is multiplied by the predicted square footage for each institution, which is calculated using the Space Projection Model, developed by THECB. For general academic institutions, the amount of teaching space (classrooms, laboratories, meeting rooms, etc.) is predicted using the number of full-time-student equivalents by program. Space is predicted based on the program area, with each area allotted square footage per student based on specific needs. The model also accounts for office space, calculated based on the larger of the number of full-time-equivalent faculty or educational and general expenditures. The Space Projection Model does not account for the proportion of courses delivered outside of on-campus teaching space.

Community colleges do not receive state funding for physical plant operations or maintenance, which are supported by local taxes. They are funded using formulas that include core operations, student success, and contact hours. Each college receives the same biennial amount in General Revenue Funds for core operations to cover operating costs. For the 2018–19 biennium, 11.0 percent of the remaining funds were distributed based on student success points, and 89.0 percent of the funds were distributed based on the number of contact hours. Funding formulas do not distinguish between online and on-campus courses.

The Eighty-fourth Legislature, General Appropriations Act, 2016–17 Biennium, required THECB to study the Space Projection Model and recommend potential updates for the space prediction calculations. THECB has found that the model predicts an excess amount of space, even when accounting for growth. The amount of teaching space needed has not increased as much as the model predicted. The amount of predicted office space compared to actual square footage did not vary as much statewide, but the space varied widely among institutions.

THECB staff also evaluated online education by comparing the number of semester credit hours taught fully online as a percentage of the total number of credits. THECB found that it may need to consider the differences in space needs as more courses are offered fully online. THECB also found that, although salary and benefits costs typically are the same for both modes of instruction, facility costs may be an area of savings related to online courses. However, the THECB study cautions that fully online courses often are attended by full-time resident students at the institution. Because the

Space Projection Model accounts for space devoted to teaching, research, offices, libraries, and support, THECB could isolate the effect of online education on the teaching category. **Figure 9** shows the estimated amount of teaching space required for different types of rooms. The report found that 44.0 percent of predicted teaching space includes classrooms and laboratories, which typically are not needed for fully online classes.

Among the recommendations in the 2016 report, THECB proposed that 50.0 percent of predicted square footage for teaching should be adjusted by the percentage of courses reported fully online. Hybrid courses would receive the full predicted space. THECB recommended that the adjustments should not decrease funds. Instead, the agency would reallocate funds across institutions to increase efficiency.

According to THECB, this adjustment would have the following benefits:

- consider the need for other types of teaching space being required or available, including when the course was fully online;

- remove the need for the actual classroom or class laboratory when the course was fully online;

- retain the need for the classrooms and laboratories when the course was a hybrid or other type of online course; and

- retain the need for library, research, office, and support space.

If this recommendation were implemented, institutions that have a higher percentage of online courses would see a decrease in the amount of predicted teaching space calculated for the Space Projection Model. The Eighty-fifth Legislature, Regular Session, 2017, did not adopt the recommendations in the 2016 report.

EVALUATING COST OF ONLINE HIGHER EDUCATION IN OTHER STATES

Other states also have explored methodologies for determining online course costs. In Wyoming, the state's community colleges developed a common accounting system to ensure that course costs could be compared and evaluated. Administrators used this information to calculate the cost of delivering online education at community colleges. The evaluation of one college with a large percentage of online classes found that these courses cost 23.2 percent less than on-campus courses. In 2016, Wyoming Legislature

FIGURE 9

PREDICTED TEACHING SPACE FROM THE TEXAS HIGHER EDUCATION COORDINATING BOARD SPACE PROJECTION MODEL, CALENDAR YEAR 2016

ROOM TYPE	SQUARE FEET PER FULL-TIME-STUDENT EQUIVALENT
Classroom	11.0
Class laboratory	8.0
Special class laboratory	3.0
Self-study laboratory	3.0
Physical education, demonstration, audiovisual, etc.	10.0
Assembly, lounge, meeting rooms, etc.	5.0
Service space	5.0
Total	**45.0**

SOURCE: Texas Higher Education Coordinating Board.

subsequently redefined funding for community colleges by the level and type of course, allocating distance education courses 80.0 percent of the funding that on-campus courses receive. The legislation resulted in lower levels of funding for institutions with more online classes; however, one community college reported that decreased funding has not prevented the college from offering online courses and meeting students' needs.

Similarly, Florida has evaluated its online higher education system and adjusted its online degree programs and expenditure tracking. During calendar year 2013, Florida established UF Online, which offers courses exclusively online and is required to charge students a lower price. The University of Florida awards all UF Online degrees, and online degrees do not differ from degrees earned through on-campus courses. Tuition for online courses and programs may not exceed 75.0 percent of the regulated in-state tuition rate, and tuition must cover costs associated with instruction, materials, and enrollment, excluding the costs of textbooks and physical laboratory supplies. UF Online students are not charged fees for activity and services, health, transportation, and athletics. The Florida Legislature later added an option for online students to pay the fee package for access to on-campus services. During 2014, one school official estimated that online students would pay about 36.0 percent less than residential students. For school year 2018–19, tuition and fees for UF Online are estimated to be $3,876, nearly half the standard $6,380 cost of on-campus attendance.

During calendar year 2016, the Florida Board of Governors developed a methodology for calculating the cost of delivering online education. The methodology included the following four categories of common and unique costs for institutions: online course and faculty development, technology and infrastructure, support services, and administrative services. An Affordability Workgroup developed the following three tasks for determining the cost of online education:

(1) determine and define the elements that should be captured for the cost model and obtain data from institutions;

(2) develop models to achieve cost savings and cost avoidances in the development and delivery of online education; and

(3) optimize the use of the distance education course fee to enhance the design, development, and delivery of online education.

The report found that the average cost of learning can change as institutions become more experienced in offering distance education. In addition, 42.0 percent of incremental costs across the State University System of Florida funded the development of online courses. These costs can include developing content, accessibility captioning, faculty and staff training, instructional designers, and programming. The remaining costs covered the delivery of high-quality online education to students, such as library resources and student services. The report also noted how the Florida Legislature and institutions work to decrease costs. Florida public institutions have access to shared services, including student-focused support, professional development, and a statewide learning management system. Furthermore, the study found that the increase in fully online students who typically would have received classroom instruction could enable institutions to avoid spending $184.3 million to build new classroom space during a five-year period.

It is unclear whether costs for delivering online education are lower than those for on-campus courses. One recent report on distance education stated that online classes were intended to increase access to education, not necessarily to control costs. Texas institutions have reported that offering more online and hybrid courses and using an online learning management system can result in cost efficiencies. However, institutions also reported that the start-up, maintenance, and replacement of needed technology can be costly. Faculty, students, and staff also may require additional training to effectively use many of these technologies. Because

institutions do not report the cost of distance education expenditures separately, it is difficult to draw conclusions based on estimated expenditures and revenue.

In North Carolina, the Program Evaluation Division of the General Assembly found that distance education courses cost more to develop, but cost about the same to deliver as those taught on campus. The report reviewed the start-up and ongoing costs of distance education throughout the University of North Carolina System. The increased cost was due to staff support needed to develop or convert courses for distance education. Faculty reported that distance courses require more upfront preparation during the conversion process and throughout the course, because faculty must measure student participation and engagement. According to the report, which was similar to THECB's findings, technology has changed the delivery of instruction across multiple settings, with no clear distinction between online and on-campus instruction.

In Georgia, a recently completed audit of online education within 29 University System of Georgia institutions found that the primary purpose of online education was to increase access to educational opportunities, not necessarily to reduce cost. As a result, the report focused on the price of online education for students. The state regulates tuition for on-campus courses, and institutions can set online tuition rates. These separate processes resulted in online tuition rates that tended to be higher than rates for classroom courses. When determining tuition for online courses, universities individually considered the online education market, classroom tuition rates, and the cost of technological components.

Following the Georgia system's audit, the Board of Regents now approves online tuition rates. Georgia also has an online initiative called eCore, which offers online general education classes at a set rate of $159 per credit hour. Program administrators use historical cost data to determine the tuition needed to fund the program. Additionally, the report found that students at several institutions saved money by enrolling in the eCore courses instead of online courses offered by their institutions.

These inconclusive findings highlight the diverse nature of delivering higher education and the difficulty making comparisons across institutions and systems. The effects of regulation, state support, student characteristics, accounting processes, and administrative structure all can influence the

cost of delivering online education and the tuition paid by students.

FISCAL IMPACT OF THE OPTION

Option 1 would require THECB to develop an accounting method that could be used by general academic institutions and public community and technical colleges to standardize and separate the reporting of expenditures and revenue related to delivering education online and on-campus. THECB has indicated that they do not have the expertise to develop a collection tool for identifying online education costs, and would need to hire a consultant at a cost of $200,000. THECB would be required to report to the Legislature regarding the costs associated with implementing the accounting method. THECB estimates transactional costs and an administrative burden associated with any standardized methodology for allocating costs by mode of instruction, but the amount is unknown at this time.

Of the institutions that allocate costs differently, two had to develop specific accounting codes and have more centralized structures. They described this practice as a regular part of their business operations. If the Legislature chose to require institutions to implement the standardized method, it is unknown whether the information identified would show online education to be more or less costly to deliver than traditional modes of instruction, and how this could influence funding decisions.

The introduced 2020–21 General Appropriations Bill does not include any adjustments as a result of this option.

APPENDIX A

FIGURE A–1
PROPORTION OF SEMESTER CREDIT HOURS THAT ARE PRIMARILY ONLINE COURSES AT TEXAS PUBLIC UNIVERSITIES
FALL 2017

INSTITUTION	PROPORTION OF OVERALL DISTANCE EDUCATION SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION (1)	PROPORTION OF TOTAL SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION
Angelo State University	94.5%	13.6%
Lamar University	96.0%	37.1%
Midwestern State University	95.0%	16.9%
Prairie View A&M University	56.0%	6.1%
Sam Houston State University	96.1%	23.0%
Stephen F. Austin State University	84.7%	14.7%
Sul Ross State University, Rio Grande College	55.1%	44.4%
Sul Ross State University	86.7%	21.2%
Tarleton State University	67.9%	17.9%
Texas A&M International University	88.0%	12.6%
Texas A&M University	84.3%	9.3%
Texas A&M University at Galveston	16.2%	3.2%
Texas A&M University – Central Texas	92.6%	42.9%
Texas A&M University – Commerce	76.6%	39.5%
Texas A&M University – Corpus Christi	86.0%	11.8%
Texas A&M University – Kingsville	47.5%	7.3%
Texas A&M University – San Antonio	20.4%	6.3%
Texas A&M University – Texarkana	78.9%	35.5%
Texas Southern University	0.0%	0.0%
Texas State University	39.6%	4.1%
Texas Tech University	76.2%	13.8%
Texas Woman's University	73.8%	26.3%
University of North Texas	91.0%	15.3%
University of North Texas at Dallas	56.3%	28.6%
University of Texas at Arlington	93.7%	22.4%
University of Texas at Austin	49.8%	3.4%
University of Texas at Dallas	75.1%	4.6%
University of Texas at El Paso	61.1%	9.3%
University of Texas at Tyler	70.1%	32.7%
University of Texas Rio Grande Valley	74.4%	19.2%
University of Texas at San Antonio	77.5%	8.4%
University of Texas of the Permian Basin	98.2%	49.4%
University of Houston	62.7%	13.9%
University of Houston – Clear Lake	71.8%	18.7%
University of Houston – Downtown	64.4%	29.8%
University of Houston – Victoria	75.3%	52.6%
West Texas A&M University	100.0%	29.5%

FIGURE A–1 (CONTINUED)
PROPORTION OF SEMESTER CREDIT HOURS THAT ARE PRIMARILY ONLINE COURSES AT TEXAS PUBLIC UNIVERSITIES
FALL 2017

INSTITUTION	PROPORTION OF OVERALL DISTANCE EDUCATION SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION (1)	PROPORTION OF TOTAL SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION
Total	**74.7%**	**14.2%**

NOTE: (1) Fully distance education refers to courses that cannot exceed 15.0 percent of mandatory on-campus attendance. Overall distance education includes multiple modes of instruction, such as study abroad and dual credit, which might not be online.
SOURCE: Texas Higher Education Coordinating Board.

FIGURE A–2
PROPORTION OF SEMESTER CREDIT HOURS THAT ARE PRIMARILY ONLINE AT TEXAS STATE, COMMUNITY, AND TECHNICAL COLLEGES, FALL 2017

INSTITUTION	PROPORTION OF OVERALL DISTANCE EDUCATION SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION (1)	PROPORTION OF TOTAL SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION
Alamo CCD Northeast Lakeview College (2)	89.2%	15.1%
Alamo CCD Northwest Vista College (2)	44.8%	13.7%
Alamo CCD Palo Alto College (2)	89.9%	24.0%
Alamo CCD San Antonio College (2)	74.2%	20.7%
Alamo CCD St. Philips College (2)	57.6%	26.3%
Alvin Community College	25.8%	11.5%
Amarillo College	60.9%	22.7%
Angelina College	40.8%	18.9%
Austin Community College	55.8%	11.1%
Blinn College District	13.4%	11.5%
Brazosport College	59.4%	17.9%
Central Texas College	63.1%	35.5%
Cisco College	37.2%	30.7%
Clarendon College	47.7%	27.8%
Coastal Bend College	35.8%	27.3%
College of the Mainland	52.9%	17.5%
Collin County Community College	59.1%	14.7%
DCCCD Brookhaven College (2)	93.9%	21.4%
DCCCD Cedar Valley College (2)	72.8%	36.8%
DCCCD Eastfield College (2)	71.7%	29.3%
DCCCD El Centro College (2)	84.3%	26.8%
DCCCD Mountain View College (2)	82.1%	22.6%
DCCCD North Lake College (2)	82.6%	21.0%
DCCCD Richland College (2)	95.2%	19.5%
Del Mar College	79.2%	15.8%
El Paso Community College	53.5%	13.2%
Frank Phillips College	61.4%	27.6%
Galveston College	55.6%	19.9%
Grayson College	82.4%	29.9%
Hill College	38.9%	32.3%
Houston Community College	39.6%	17.8%
Howard College	38.6%	30.2%
Kilgore College	39.1%	16.5%
Lamar Institute of Technology	72.2%	15.2%
Lamar State College, Orange	81.2%	27.6%
Lamar State College, Port Arthur	2.0%	0.4%
Laredo Community College	49.4%	12.7%
Lee College	23.3%	10.1%

FIGURE A–2 (CONTINUED)
PROPORTION OF SEMESTER CREDIT HOURS THAT ARE PRIMARILY ONLINE AT TEXAS STATE, COMMUNITY, AND TECHNICAL COLLEGES, FALL 2017

INSTITUTION	PROPORTION OF OVERALL DISTANCE EDUCATION SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION (1)	PROPORTION OF TOTAL SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION
Lone Star College – CyFair	47.6%	14.0%
Lone Star College – Kingwood	0.0%	0.0%
Lone Star College – Montgomery	43.8%	14.3%
Lone Star College – North Harris	67.8%	21.7%
Lone Star College – Tomball	55.5%	23.4%
Lone Star College – University Park	60.4%	20.0%
McLennan Community College	98.5%	26.3%
Midland College	54.3%	19.7%
Navarro College	34.0%	22.7%
North Central Texas College	30.8%	26.3%
Northeast Texas Community College	66.7%	31.1%
Odessa College	81.6%	35.8%
Panola College	73.9%	40.5%
Paris Junior College	41.6%	32.0%
Ranger College	35.7%	27.0%
San Jacinto College Central Campus	66.9%	9.8%
San Jacinto College North Campus	87.7%	16.3%
San Jacinto College South Campus	76.6%	17.1%
South Plains College	34.3%	18.9%
South Texas College	81.9%	13.7%
Southwest Collegiate Institute	8.3%	0.8%
Southwest Texas Junior College	14.5%	11.9%
Tarrant County Connect Campus	96.0%	96.0%
Tarrant County Northeast Campus	23.6%	2.0%
Tarrant County Northwest Campus	30.6%	3.9%
Tarrant County South Campus	23.5%	1.6%
Tarrant County Southeast Campus	3.5%	0.4%
Tarrant County Trinity River Campus	29.1%	1.4%
Temple College	60.4%	27.0%
Texarkana College	46.2%	19.3%
Texas Southmost College	9.6%	2.4%
Texas State Technical College – Fort Bend	100.0%	44.2%
Texas State Technical College – Harlingen	72.9%	7.2%
Texas State Technical College – Marshall	92.0%	26.7%
Texas State Technical College – North Texas	86.0%	86.0%
Texas State Technical College – Waco	66.4%	9.7%
Texas State Technical College – West Texas	61.7%	40.8%
Trinity Valley Community College	66.0%	31.3%

FIGURE A–2 (CONTINUED)
PROPORTION OF SEMESTER CREDIT HOURS THAT ARE PRIMARILY ONLINE AT TEXAS STATE, COMMUNITY, AND TECHNICAL COLLEGES, FALL 2017

INSTITUTION	PROPORTION OF OVERALL DISTANCE EDUCATION SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION (1)	PROPORTION OF TOTAL SEMESTER CREDIT HOURS THAT ARE FULLY DISTANCE EDUCATION
Tyler Junior College	66.0%	20.1%
Vernon College	22.6%	18.9%
Victoria College	66.8%	21.2%
Weatherford College	45.1%	19.5%
Western Texas College	72.1%	40.2%
Wharton County Junior College	14.9%	11.2%
Total	**49.9%**	**18.3%**

NOTES:
(1) Fully distance education refers to courses that cannot exceed 15.0 percent of mandatory on-campus attendance. Overall distance education includes multiple modes of instruction, such as study abroad and dual credit, which might not be online.
(2) CCD=Community College District, DCCCD=Dallas Community College District.
SOURCE: Texas Higher Education Coordinating Board.

FIGURE A–3
TEXAS INSTITUTIONS OF HIGHER EDUCATION THAT RESPONDED TO A LEGISLATIVE BUDGET BOARD SURVEY REGARDING ONLINE EDUCATION, SEPTEMBER 2018

INSTITUTION	TYPE
Angelo State University	Public University
Midwestern State University	Public University
Prairie View A&M University	Public University
Sam Houston State University	Public University
Stephen F. Austin State University	Public University
Sul Ross State University (1)	Public University
Tarleton State University	Public University
Texas A&M International University	Public University
Texas A&M University	Public University
Texas A&M University – Central Texas	Public University
Texas A&M University – Commerce	Public University
Texas A&M University – Corpus Christi	Public University
Texas A&M University – Kingsville	Public University
Texas A&M University – San Antonio	Public University
Texas A&M University – Texarkana	Public University
Texas A&M University at Galveston	Public University
Texas Southern University	Public University
Texas State University	Public University
Texas Tech University	Public University
Texas Woman's University	Public University
University of Houston	Public University
University of Houston – Clear Lake	Public University
University of Houston – Downtown	Public University
University of Houston – Victoria	Public University
University of North Texas	Public University
University of North Texas at Dallas	Public University
University of Texas at Arlington	Public University
University of Texas at Austin	Public University
University of Texas at Dallas	Public University
University of Texas at El Paso	Public University
University of Texas at San Antonio	Public University
University of Texas at Tyler	Public University
University of Texas Rio Grande Valley	Public University
University of Texas of the Permian Basin	Public University
West Texas A&M University	Public University
Alvin Community College	Community College
Amarillo College	Community College
Angelina College	Community College
Blinn College	Community College

FIGURE A–3 (CONTINUED)
TEXAS INSTITUTIONS OF HIGHER EDUCATION THAT RESPONDED TO A LEGISLATIVE BUDGET BOARD SURVEY REGARDING ONLINE EDUCATION, SEPTEMBER 2018

INSTITUTION	TYPE
Brazosport College	Community College
Central Texas College	Community College
Cisco Junior College	Community College
College of the Mainland	Community College
Dallas County Community College – Brookhaven	Community College
Dallas County Community College – Cedar Valley	Community College
Dallas County Community College – Eastfield	Community College
Dallas County Community College – El Centro	Community College
Dallas County Community College – Mountain View	Community College
Dallas County Community College – North Lake	Community College
Dallas County Community College – Richland	Community College
El Paso Community College	Community College
Frank Phillips College	Community College
Grayson County College	Community College
Houston Community College (2)	Community College
Howard College	Community College
Laredo Community College	Community College
Lone Star Community College System	Community College
McLennan Community College	Community College
Navarro College	Community College
North Central Texas College	Community College
Northeast Texas Community College	Community College
Odessa College	Community College
Panola College	Community College
Paris Junior College	Community College
San Jacinto College (2)	Community College
South Plains College	Community College
South Texas College	Community College
Tarrant County College (2)	Community College
Temple College	Community College
Texarkana College	Community College
Trinity Valley Community College	Community College
Vernon College	Community College
Victoria College	Community College
Western Texas College	Community College
Wharton County Junior College	Community College
Lamar Institute of Technology	State College
Lamar State College, Orange	State College
Lamar State College, Port Arthur	State College

FIGURE A–3 (CONTINUED)
TEXAS INSTITUTIONS OF HIGHER EDUCATION THAT RESPONDED TO A LEGISLATIVE BUDGET BOARD SURVEY REGARDING ONLINE EDUCATION, SEPTEMBER 2018

INSTITUTION	TYPE
Texas State Technical College (2)	Technical College

NOTES:
(1)   Responded for Sul Ross State University and Sul Ross State University, Rio Grande College.
(2)   Responded as system.
SOURCE: Legislative Budget Board.