



Strategies for Implementing Digital Learning Infrastructure to Support Equitable Outcomes

A Case-based Guidebook for
Institutional Leaders





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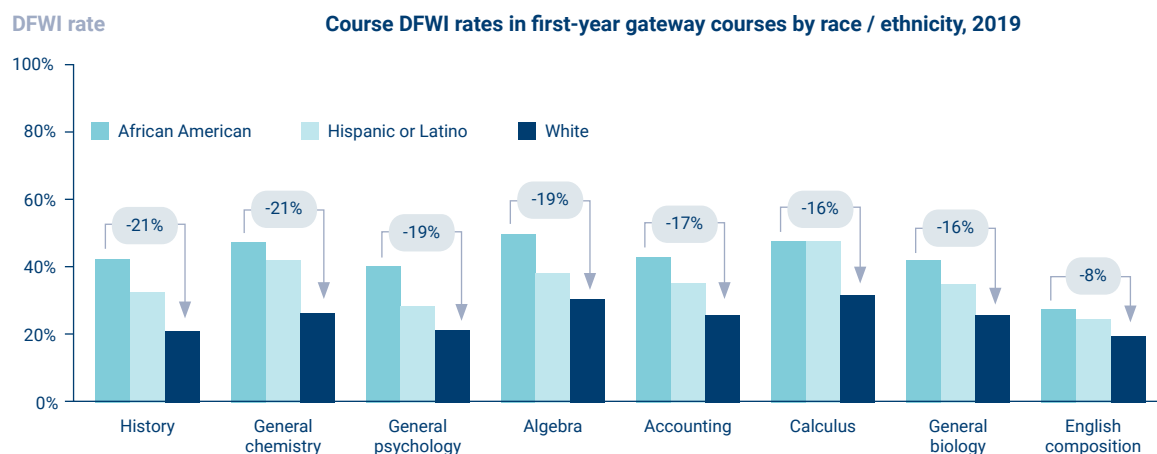
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A Call to Action: Addressing Gateway Course Equity Gaps Using Digital Learning

Today's higher education system produces persistent gaps in student outcomes for Black, Latinx, Indigenous, and other historically minoritized and low-income students. When outcomes data are reviewed by race and income, the gaps are stark. Minoritized students are less likely to attend a postsecondary (two- or four-year) institution, and those who do are less likely to persist and graduate. Whereas 66% of white students graduate in six years or less from a four-year institution, only 42% of Black students and 57% of Latinx students do the same.¹ The trend is similar for two-year institutions.

Gateway courses contribute significantly to these gaps and are a common place where institutions fail to meet students where they are. When students fail or do poorly in these courses, they are more likely to drop out or stop out or face challenges to persistence, and this is disproportionately true for minoritized groups. **Gateway courses are required courses that enable students to complete general education sequences or advance further into the curriculum. Science and Math courses are required for students to enter into STEM majors, which often lead to high-paying careers.** These courses often function as gate keepers, especially for minoritized or poverty-affected students, as is evident by disaggregated DFWI rates. The DFWI rate is the percentage of students in a program who get a D or F grade, withdraw ("W") from a course, or score an incomplete. Illustrated in the figure below, a **2019 Gardner Institute study found that DFWI rates were 21% higher for Black students. A similar — though less stark — gap is present when viewed by Pell Status. Pell-grant recipients have significantly higher DFWI rates than non-Pell recipients.**²



1 National Center for Education Statistics. (2020, August). *Digest of Education Statistics*. https://nces.ed.gov/programs/digest/d20/tables/dt20_326.10.asp?current=yes.

2 Koch, A.K., & Drake, B.M. (2018, November 6). *Digging into the Disciplines I: Accounting for Failure-The Impact of Principles of Accounting Courses on Student Success and Equitable Outcomes*. Gardner Institute. <https://www.jngi.org/blog/2018/11/6/digging-into-the-disciplines-the-impact-of-gateway-courses-in-accounting-calculus-and-chemistry-on-student-success>.

When implemented well, digital learning demonstrates the power to close equity gaps in these gateway courses and throughout the curriculum. Leveraging digital learning components, such as interactive and individualized course materials, leadership, and faculty across institutions opens the door to creative, effective strategies for improving student outcomes in gateway courses. With the adoption of adaptive courseware and accompanying data analysis, several colleges and universities reveal that digital learning is a promising tool for improving student success – and ultimately closing equity gaps – in high-enrollment, introductory courses.³

While we continue to learn about the potential of digital tools to enhance teaching and improve student outcomes, many institutions already effectively leverage digital technologies to support faculty in the redesign of critical, gateway courses. These efforts lead to significant changes in student pass rates across student populations. Consider [Northern Arizona University](#), where the implementation of adaptive courseware in introductory general education courses resulted in an increase in pass rates from 76% to 85% for Hispanic students, 79% to 92% for first-generation students, and 62% to 82% for Black students in affected courses.⁴

At [Cuyahoga Community College \(Tri-C\)](#), the redesign of The Fundamentals of Macroeconomics course involved movement to an adaptive courseware platform.⁵ Now the school introduces economics concepts via a flipped course model, and delivery of content is through videos rather than through traditional reading. Importantly, these videos are provided in English and Spanish and captioned to improve accessibility. Upon redesign, course-level data from Tri-C's Office of Institutional Research show improvement in student pass rates from 80% in Fall 2018 to 90% in Fall 2019. Over the same period, the average course grade in The Fundamentals of Macroeconomics increased from 2.55 to 2.86. [The University of Louisville](#) showed similar results when faculty combined adaptive courseware with the Emporium Model and saw an impressive 20% drop in DFW rates in two college Math courses and a 16% reduction in DFW rates in two introductory Physics courses.⁶ This evidence suggests that digital learning tools and pedagogies have the capacity to close equity gaps by improving student success in gateway courses where minoritized student groups traditionally skew disproportionately disadvantaged. These examples also suggest that when designed for the institutional and student community contexts at hand, improvements in student outcomes are possible across a diversity of institution types.

3 Allli, N., Rajan, R., & Ratliff, G. (2016, March 7). *How Personalized Learning Unlocks Student Success*. EDUCAUSE Review. <https://er.educause.edu/articles/2016/3/how-personalized-learning-unlocks-student-success>.

Dziuban, C., Moskal, P., Johnson, C., & Evans, D. (2017). Adaptive Learning: A Tale of Two Contexts. *Current Issues in Emerging eLearning* 4(1). <https://scholarworks.umb.edu/ciee/vol4/iss1/3>.

Vignare, K. (Ed.). (2020). Current Issues in Emerging eLearning, Volume 7, Issue 1: APLU Special Issue on Implementing Adaptive Learning at Scale. *Current Issues in Emerging eLearning*, 7(1). <https://scholarworks.umb.edu/ciee/vol7/iss1/7>.

4 Every Learner Everywhere. (2020, March 24). *Case Study: Northern Arizona University (NAU)*. <https://www.everylearnereverywhere.org/resources/case-study-northern-arizona-university/>.

5 Every Learner Everywhere. (2020, September 30). *Economics at Cuyahoga Community College*. <https://www.everylearnereverywhere.org/resources/case-study-economics-at-cuyahoga-community-college/>.

6 Every Learner Everywhere. (2020, August 12). *Case Study: University of Louisville (UofL)*. <https://www.everylearnereverywhere.org/resources/case-study-university-of-louisville/>.

These practices also have the potential to improve students' learning experiences and save them time and money towards degree completion. A 2020 study demonstrated that student perceptions about adaptive courseware are generally positive, with one benefit being increased flexibility "in terms of when to learn and take assessments, and more choices in terms of modalities for content delivery and practice." The same study also found that implementation matters, and students were less likely to see courseware as beneficial when not implemented well. Similarly reflected in a study of adaptive learning implementation at Colorado Technical Institute and the University of Central Florida, students at both universities "gave adaptive learning high marks for educational effectiveness".⁸ When Oregon State University set out to redesign College Math, a team of faculty stepped up to produce a high-quality design that improved student success and ultimately erased equity gaps.⁹

In addition to the benefits of course-level performance and completion, these improvements generate savings for students. In the first year of the initiative, adaptive courseware redesigns produced about \$1.3 million in tuition and living cost savings for students. Educational resources are available at a reduced cost with adaptive courseware, with cost savings ranging from \$25 for courses such as College Algebra and Economics, to \$126 for courses such as General Chemistry and Statistics. With a decreased cost burden, students can focus on getting the most from their education.¹⁰ For more information about how adaptive learning can transform teaching in gateway courses, refer to various resources available at [Every Learner Everywhere](#).

By design, these materials support institutional leaders in building capacity to support the implementation of high-quality digital learning across the undergraduate experience in ways that promote more equitable student outcomes for minoritized students. Drawing on case studies developed with institutions that serve high numbers of minoritized students, those with sustained investments in digital learning, and those seeing momentum and results, we draw out emerging and proven practices for your institution's adoption and modification as needed.

We intentionally profiled institutions that are at varying stages in their digital learning implementation, represent small to large student populations, and are showing progress in achieving equitable outcomes. All share a common commitment to and are seeing progress in redesigning policies, practices, and systems to create conditions that can better support all students in succeeding in their courses and graduating. We are grateful for the candor and willingness of these institutions to share their work with the field.

7 O'Sullivan, P., Forgette, C., Monroe, S., & England, M.T. (2020). Student Perceptions of the Effectiveness of Adaptive Courseware for Learning. *Current Issues in Emerging eLearning*, 7(1), 70-100. <https://scholarworks.umb.edu/ciee/vol7/iss1/5/>.

8 Dziuban, Charles; Moskal, Patsy; Johnson, Constance; and Evans, Duncan (2017) "Adaptive Learning: A Tale of Two Contexts," *Current Issues in Emerging eLearning*: Vol. 4 : Iss. 1 , Article 3. <https://scholarworks.umb.edu/ciee/vol4/iss1/3/>

9 Clark, S. and Jones, L. (2020, May 6) *A Team-Based Approach to Redesigning Developmental Math Courses at Oregon State University* [Video] Every Learner Everywhere. <https://www.everylearnereverywhere.org/resources/a-team-based-approach-to-redesigning-developmental-math-courses-at-oregon-state-university/>.

10 Clark, S. and O'Sullivan, P. (2020, November 18) *Case Study: Oregon State University* [Case Study] Every Learner Everywhere. <https://www.everylearnereverywhere.org/resources/case-study-oregon-state-university-osu/>.

Key Terms

Throughout this report, we use the following definitions:

Key Term	Definition
Digital learning	The use of technology and teaching practices enabled by digital tools to enhance learning. It includes a broad range of content and communication tools, curricular models, design strategies, and student support services that personalize instruction for students in blended, hybrid, and online learning environments. Equitable digital learning adapts instruction to students' needs. Implemented well, digital learning has the potential to enable active learning, empower instructors with data to inform teaching, and enable better student outcomes.
Adaptive learning	Learning systems and instructors provide students these experiences when they tailor instruction to the individual needs of students. Research demonstrates that learning is enhanced when instruction adapts to (1) students' prior knowledge levels, (2) their learning needs and growth areas, (3) student affect and motivation, and (4) differences in students' ability to regulate their own learning. ¹¹ Digital learning systems can not only provide differentiated experiences to different learners, but also give learning data to instructors. Instructors can use that data to identify students who need additional support and to pinpoint topics with which many students struggle so that they can return to those topics in class.
Gateway courses	Introductory courses that enable students to complete general education requirements or advance further into the curriculum and enter into majors. The top enrolling gateway courses include English, Biology, Algebra, Chemistry, and Calculus.
DFWI and DFW rates	The DFWI rate is the percentage of students in a program who get a D or F grade, withdraw ("W") from a course, or who receives an incomplete. In this document we refer both to the DFWI and the DFW rates, as institutions decide which of these rates are most relevant to their context. The DFW rate omits the "I" from the calculation. By disaggregating the DFW/DFWI rates, institutions can review whether they have equity gaps in student success.
Minoritized students	Throughout this text, we intend to promote equitable and inclusive digital learning experiences that support minoritized students who are historically marginalized, such as Black, Indigenous, Latinx, Asian, Pacific Islander, poverty-impacted, transgender, first-generation, international, those for whom English is a Second Language (ESL), student parents, student veterans, students with disabilities, and neurodiverse students. For students who are members of multiple minoritized communities, we recognize that their intersectional experience is complex and multi-faceted. In referencing the term "minoritized students," we strive to include diverse perspectives and experiences from many identities. In doing so, our purpose is not to erase the lived and unique experiences of racially and socioeconomically minoritized students, but to streamline phrasing.

11 Aleven, V., McLaughlin, E. A., Glenn, R. A., & Koedinger, K. R. (2017). Instruction based on adaptive learning technologies. In Mayer, R. E., & Alexander, P. (Eds.), *Handbook of research on learning and instruction* (2nd ed., pp. 522-560). http://www.cs.cmu.edu/~aleven/Papers/2016/Aleven_etal_Handbook2017_AdaptiveLearningTechnologies.pdf.

Who You Are

Whether you are an academic or student success administrator at a public university, private college, community college, or technical college, these materials will help you consider, plan, and implement strategies focused on scaling digital learning infrastructure in service of reducing equity gaps across student populations.

Who We Are

This collection of case study-based recommendations is a collaboration between Tyton Partners, the Association of Public and Land-grant Universities, and the Every Learner Everywhere Network.



Every Learner Everywhere is a network of twelve partner organizations with expertise in evaluating, implementing, scaling, and measuring the efficacy of education technologies, curriculum and course design strategies, teaching practices, and support services that personalize instruction for students in blended and online learning environments. Our collaborative work to advance equity in higher education centers on the transformation of postsecondary teaching and learning. We build capacity in colleges and universities to improve student outcomes with digital learning through direct technical assistance, timely resources and toolkits, and ongoing analysis of institution practices and market trends.



The **Association of Public and Land-grant Universities (APLU)** is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities in the U.S., Canada, and Mexico. With a membership of 246 public research universities, land-grant institutions, state university systems, and affiliated organizations, APLU's agenda is built on the three pillars of increasing degree completion and academic success, advancing scientific research, and expanding engagement. Annually, member campuses enroll 5 million undergraduates and 1.3 million graduate students, award 1.3 million degrees, employ 1.3 million faculty and staff, and conduct \$49.3 billion in university-based research. As an Every Learner member, APLU partners with four-year institutions to scale improved student outcomes through innovative pedagogy, resources, and tools.



Tyton Partners is the leading provider of strategy consulting and banking services to the education sector. In higher education, Tyton Partners' consulting practice offers a unique spectrum of services to support institutions, foundations, nonprofit organizations, and companies in developing and implementing sustainable strategies for student persistence and success, innovations in teaching and learning, and strategic growth. As an Every Learner member, Tyton conducts market research to track the supplier ecosystem, institutional perspectives and progress, and help guide the network's strategy and service offerings.

What is Digital Learning?

Digital learning comprises the technology and teaching practices that use technology to enhance learning. Digital learning includes a broad range of content and communication tools, curricular models, design strategies, and services that personalize instruction for students in face-to-face, blended, and online learning environments. Evidence demonstrates active and adaptive learning has the potential to improve course outcomes and digital solutions, while lowering the cost of course materials — particularly for poverty-affected students, and Black, Latinx, and Indigenous students. Through digital learning, faculty can adapt instruction to students' needs and capabilities, promote active and collaborative learning, more easily support learners with timely feedback, and improve academic outcomes. Digital learning expands opportunities for face-to-face, blended, and online learning based on the people, processes, and technologies supporting students. Digital learning is integrated across all learning modalities and is NOT limited to online learning and fully online courses.

What is Digital Learning Infrastructure?

We define digital learning infrastructure as the elements required across the institution to sustain digital learning at scale and distributed throughout the institution. Not limited to technology infrastructure alone, the elements of digital learning infrastructure that are critical for success include six categories described in detail in the figure on the following page: leadership, budget, and policy; course design and delivery; student success for digital learning; evaluation and analytics; professional learning; and technology infrastructure.

Navigating this Report

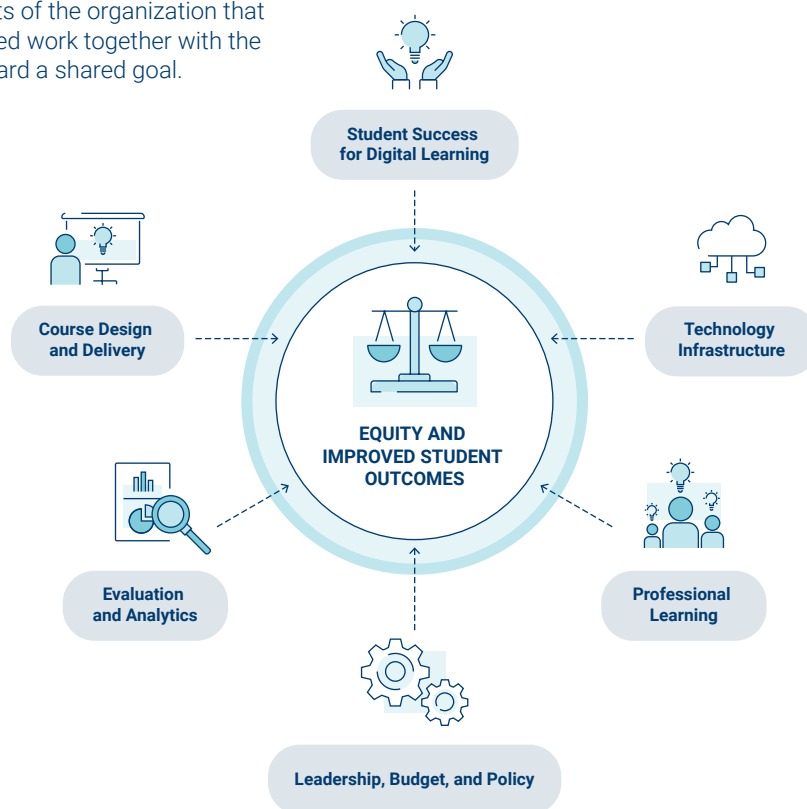
In the “Practice in Action” sections of this document, we include both recommendations and institutional examples.

Examples are indicated by the 🏠 symbol.

Detailed case studies about each individual institution are also included in the appendix of this summary report.

Equity-focused Digital Learning Infrastructure Elements

Success requires that parts of the organization that have been historically siloed work together with the support of leadership toward a shared goal.



Leadership, Budget, and Policy

- Clearly communicated goals related to equitable student outcomes
- Recognition of digital learning as vital for achieving equity goals
- Collaboration between academic and technology leadership
- Prioritization of faculty and student needs in decision-making
- Dedicated, sufficient, and sustainable resources (staff and funding)
- Budgetary structures that encourage collaboration and quality
- A focus on continuous improvement



Course Design and Delivery

- Course design focused on student needs and equitable outcomes
- Policies to ensure consistent course quality
- Data used to target course redesign
- Faculty support for implementing digital pedagogy and tools
- Faculty-led course improvement activities
- Adaptive courseware for personalized learning



Student Success for Digital Learning

- Access to devices and internet
- Readiness to use digital tools
- Accessible technology
- Affordable materials
- Provision of academic support
- Use of data to support student progress and success



Evaluation and Analytics

- Availability of learning analytics and faculty training on how to use it
- Proactive use of data to inform course-level improvement
- Disaggregated data by student characteristics (race, income, etc.)
- Mechanisms to interpret and act on data incorporate diverse perspectives



Professional Learning

- Targeted and regular professional development on digital learning and equity
- Policies and practices that support continuous learning for all instructors
- Devoted funding and infrastructure for faculty support and development (CTL, instructional design, etc.)
- Faculty-led professional learning prioritization and learning communities



Technology Infrastructure

- Inclusion of faculty and student voices in technology selection and procurement processes
- Policies to encourage the adoption of tools that are interoperable, accessible, equitable, and high-quality
- Support and guidance for procurement of technology and tools
- Equitable access to technology among students, faculty, and staff

Equity-focused Digital Learning Infrastructure

Executive Summary and Recommendations

The successes (and challenges) of the organizations profiled yield six overall key recommendations for institutional leaders seeking to invest in digital learning infrastructure that is focused on serving minoritized students and supports the adoption of high-quality digital learning and pedagogy, particularly in the early undergraduate student experience. This report focuses on building the core infrastructure needed for high-quality digital learning and is designed primarily for a mid- to senior-level academic administrators (including department chairs, leaders of centers of teaching and learning, technology leaders, and academic leadership).

This document outlines specific recommendations and examples across each of the elements of digital learning infrastructure. Key actions we recommend for scaling digital learning infrastructure that is equitable and high-quality include:

- ✓ **Create an institution-wide approach to defining and implementing a plan for equity and digital learning.**

Institutions should reflect critically on what equity means to them, what their equity goals are, and how/why digital learning is a vehicle for achieving those goals. Clearly defined, measurable goals related to the pass rates, retention, etc. of minoritized groups should serve to guide action and enable implementation. These clearly stated and transparent goals should correspond with the implementation of adequate data and evaluation procedures to monitor progress towards those specific goals. The Tennessee Board of Regents' [strategic plan](#) includes, for example, direct reference to their strategies and initiatives dedicated to “fulfilling equity.”¹²

- ✓ **Build a sustainable business plan, incorporating internal and external funding sources.**

One of the greatest challenges that institutions face is finding the balance between providing sufficient funding, while keeping costs to students as low as possible. In order to balance this reality, the institutions profiled in these case studies use a portfolio approach to digital learning funding sources. A combination of an internal budget allocation, state funding, the use of technology fees, and external philanthropic and grant funding are typical sources that sustain digital learning initiatives across the academic enterprise. While increases to completion and persistence rates have a net positive result on tuition and fee revenue overtime, upfront investments are needed in order to put new initiatives in place. Fresno State, for example, sometimes uses internal foundation funding to start new initiatives, building sustainability plans for initiatives that rely on ongoing institutional budget allocations, state funding, and philanthropy.

- ✓ **Build capabilities, expertise, and policies to support high-quality and equitable course design.**

At each of the institutions profiled, process and policies center on course quality and design, with an increasing focus on equitable course design. The institutions prioritize course redesign efforts based on data — those courses that are high-enrolling gateway courses and that have high DFWI rates are top priority. The University of Texas El Paso's (UTEP) focused investment is on incorporating high-impact practices throughout the curriculum and clearly embedding those using a common framework throughout course shells and syllabi.

12 The Tennessee Board of Regents. 2015-25 TBR Strategic Plan. Accessed October 2021. <https://www.tbr.edu/board/2015-25-tbr-strategic-plan>.

✓ **Create a learning culture and equip faculty for success through effective professional learning, incentives, and technologies.**

Each of the institutions profiled makes significant investments in supporting and celebrating instructors as they work to incorporate digital pedagogies into their courses. Centers for Teaching and Learning serve as key facilitators and hubs for instructors, instructional designers, and academic leaders seeking to transform and redesign courses; faculty learning communities enable instructors to collaboratively learn new skills and approaches; and external partnerships with organizations like Achieving the Dream (ATD), the APLU's Personalized Learning Consortium, the Association of College and University Educators (ACUE), and Lumen Circles. The Tennessee Board of Regents uses mini grants to support faculty (both full and part-time) in implementing new pedagogies and tools in the classroom, compensating them for their time and efforts.

✓ **Engage in ongoing evaluation and analytics.**

As the old adage goes: “measure what matters.” Ensure that data — disaggregated by race, income, and other factors — is available and interrogated within courses, across courses, majors, and the institution as to identify challenges and learn from progress. At Georgia State University, an analytics team makes data available across the institution to inform teaching and learning, enabling ongoing learning about where new approaches succeed and where intervention is needed.

✓ **Equip students for success.**

Success in digital learning requires thoughtful and targeted student support. Ensuring support to all students in their ability to access and use digital tools starts with acknowledging that students enter their educational experiences with varying levels of access to wifi, devices, and literacy and experience with digital tools. To assume that instructors and students are already familiar with or have access to devices, internet, and software is a mistake. Instead make sure to proactively have access to internet and plan for software to be used on multiple devices. Once coursework is underway for enrolled students, ensuring support, such as via proactive tutoring, is also important. At Fayetteville State University, the institution supports students through a combination of a technology (including nudges — an online platform that connects students to institution-wide tutoring and support services) and personalized support (i.e. peer mentorship and advisors).

✓ **Use external partners and vendors strategically to augment internal capacity.**






Institutions should leverage partnerships with organizations with expertise in digital learning and equity. It is critical to make sure in equity-focused digital learning that your equity goals are integrated throughout your digital learning implementation. We encourage knowing your institution's internal capacity or internal capacity limits and bring in expertise and support for historically under-resourced students. Considering where to partner for capabilities and services versus where to invest in them permanently is a strategy that can offer cost savings for institutions or access to targeted expertise in digital learning and equitable course design.

Methodology and Approach

Seven institutional exemplars were interviewed and responded to data requests that culminated in this report. They shared experiences, challenges, and successes using digital learning to address equity gaps at their institutions. We invited these institutions to participate from a broader set of institutions all meeting the following criteria:

- **Serve significant numbers of students of color and / or poverty-affected students**
- **Invested in redesigning general education courses and using high-quality digital learning tools (including adaptive courseware)**
- **Uses digital learning as a strategy to close equity gaps**
- **Presents emerging or established evidence of success on student, faculty, and institutional outcomes**
- **Efforts show evidence of scaling**

The following seven organizations take diverse approaches to how they organize their digital learning initiatives but share a common commitment to taking an institution-wide approach, prioritizing, improving, and creating more equitable student outcomes, and ensuring that their digital learning infrastructure supports this objective for all learners. We are grateful for the contributions of each of these institutions, their leadership, faculty, staff, and students for sharing their experience, learnings, and advice for the benefit of the field. Below is the list of general institutional and student characteristics for each organization.

Institution	 Institution Characteristics	 Student Characteristics, Fall 2020*
 <u>Cuyahoga Community College</u>	2-year public	40% Age 25+ 34% Pell** 36% Students of color^ 19,000 total undergraduate enrollment^^
 <u>Fayetteville State University</u>	4-year public, HBCU	40% Age 25+ 53% Pell 75% Students of color 6,000 total undergraduate enrollment
 <u>Georgia State University</u>	4-year public	16% Age 25+ 48% Pell 75% Students of color 29,000 total undergraduate enrollment
 <u>Ivy Tech Community College</u>	2-year public	38% Age 25+ 40% Pell 24% Students of color 64,000 total undergraduate enrollment
 <u>Tennessee Board of Regents</u>	2-year state system	28% Age 25+ 41% Pell 27% Students of color 102,000 total undergraduate enrollment
 <u>California State University, Fresno (Fresno State)</u>	4-year public, HSI, AANAPISI	15% Age 25+ 55% Pell 74% Students of color 23,000 total undergraduate enrollment
 <u>University of Texas at El Paso</u>	4-year public, HSI	21% Age 25+ 58% Pell 90% Students of color 21,000 total undergraduate enrollment

*All calculations reflect Fall 2020, although the Tennessee Board of Regents characteristics are calculated for Fall 2019.

**Percent Pell is defined as the percent of total undergraduate students receiving the Federal Pell Grant. Pell Grant receipt functions as one measure of student income, though an imperfect one; at community colleges, Pell eligibility (and therefore receipt) is often lower because many part-time students at community colleges do not file for FASFA to be able to receive the Pell Grant.

^Percent Students of color is defined as percent of total undergraduate students that identify as Black or African American, Asian, Hispanic/Latino, American Indian or Alaskan Native, Native Hawaiian or other Pacific Islander, or two or more races.

^^Total undergraduate enrollment includes transfer-in undergraduate enrollment. However, due to data limitations, the Tennessee Board of Regents undergraduate enrollment estimate does not include transfer-in students.

Putting Practice into Action

- Leadership, Budget, and Policy
 - Evaluation and Analytics
 - Student Success for Digital Learning
 - Professional Learning
 - Technology Infrastructure
-

Practice in Action: Leadership, Budget, and Policy



- Clearly communicated goals related to equitable student outcomes
 - Recognition of digital learning as vital for achieving equity goals
 - Collaboration between academic and technology leadership
 - Prioritization of faculty and student needs in decision-making
 - Dedicated, sufficient, and sustainable resources (staff and funding)
 - Budgetary structures that encourage collaboration and quality
 - A focus on continuous improvement
-


In advancing or accelerating new initiatives, committed and empowered senior leadership is a critical element for success. In institutional change management efforts — particularly those that impact teaching, learning, and faculty leadership — needs to be collaborative and accountable to senior leaders. Digital learning initiatives require partnership with leaders and team members across the organization (including academic, technology, Center for Teaching and Learning leaders, instructional designers, faculty, and student support professionals) and; therefore, require integration and coordination of leadership across functions and organizational structures.

Sufficient budgets that support operationalization are necessary for sustaining digital learning initiatives. In organizations deeply committed to using digital learning to drive equitable outcomes, we observe the clear prioritization of assembling a team of key leaders across the organization, faculty inclusion in planning and implementation, allocation of resources and supportive budget policies, and a focus on creating a culture of continuous learning and improvement.

While we acknowledge that each institution faces different contexts around resource allocation, funding models, and organizational structures and cultures, there exist common attributes at these institutions that focus on equitable implementation of digital learning practices. We recommend that institutions take the following actions to invest in high-quality, equitable digital learning infrastructure:

Emphasize digital learning, equity, and student success goals publicly for organizational consistency and accountability

At institutions where digital learning is scaled, it is communicated to the entire organization and supported with institution-wide policies (such as professional learning, faculty incentives, and budgets) to support the integration of digital learning practices into the undergraduate curriculum.

 **Included in their strategic plan, Ivy Tech Community College** demonstrates a commitment to both technology and equity, as they pursue the development of technology infrastructure and literacy to achieve equitable student outcomes. One of Ivy Tech's goals is to "provide students access to the technology they need to be successful in class, while ensuring they know how to use technology" Another goal is to "define systemic inequities for students to then create policies, practices, and protocols with respect to diversity, equity, and belonging." ¹


Example of an Institutional Equity Commitment

"Tri-C is committed to the concept of inclusive excellence — equipping all students to be successful and ensuring that the College reflects the communities it serves in its student body, employees and operations. Tri-C recognizes that while students may receive similar access to education, they have not all achieved the same level of success, particularly in degree attainment. The College recognizes the differences among students and continues to identify opportunities to promote equity and support every student's success."

Source:
Cuyahoga Community College Strategic Plan 2018-2022

Build centralized capabilities for resources and supports while operationalizing policies that enable enterprise scale

Integration or centralization of some form is necessary to achieve scaled and sustained digital learning across institutions. Across each area of the Equity-focused Digital Learning Infrastructure Elements introduced on page 10, centralization enables excellence to be elevated, expertise to be built and shared, and ensures that faculty across departments and levels have access to support. Equitable course design and technology selection require expertise and centralization that enables the ongoing development and dissemination of that expertise across the organization.

 **Georgia State** offers institution-wide investment to support the role that digital learning can play in accelerating institutional progress towards equitable student outcome. Georgia State's Center for Excellence in Teaching, Learning and Online Education (CETLOE) oversees all digital learning activities, and three distinct units further support those initiatives: the Learning Innovations Team (primarily responsible for course design and development in the digital environment); the Teaching Effectiveness Team (primarily responsible for faculty programs that emphasize the best

¹ Ivy Tech Community College. *Strategic Plan*. Accessed October 2021. <https://www.ivytech.edu/34454.html>.

practices in pedagogy); and the Georgia State Online Team (primarily responsible for the development of Georgia State's online enterprise). Georgia State's investments in a robust organizational structure for digital learning support faculty and students as they adopt digital components in their teaching and learning, ultimately enabling momentum in digital learning across the institution.


Incorporate faculty voices into decision-making to create a shared commitment across the organization for digital learning

For sustained and meaningful change, administrators, faculty, and students must co-create and collaborate on digital learning initiatives that are enacted by departments and offices.

-  At **Fresno State**, investment in technology coupled with professional learning for instructors, are key steps in making sure that all instructors — including adjunct instructors — implement digital learning in their courses. The institution equips them with the hardware, software, and professional development for success. This is in combination with accompanying support for students from the institution, such as the [DISCOVERe Hub](#), which enables faculty to access support for teaching courses that incorporate digital tools.
-  At **Tri-C**, a Tech Forum Review board — comprised of individuals from Academic and Student Affairs, Administration and Finance (A&F), and Corporate College and Workforce Community and Economic Development (WCED) — works to ensure that administrative and academic technology-based projects are fully researched, selected and implemented in alignment with the College's strategic plan. Tri-C also invests in Faculty Development Coordinators, college-wide and campus-specific faculty liaisons hired to bring faculty ideas and concerns to senior leadership meetings and support faculty adoption of digital tools. Similarly, senior leadership appoints faculty members as OLAT (Online Learning and Academic Technology) Ambassadors, who receive compensation to pilot and review classroom technology and inform institutional decision-making.


Incorporate minoritized and poverty-impacted student voices into planning and decision-making

Incorporating the perspectives and experiences of students are important input for assessing and making decisions about digital learning and prioritizing student supports.

-  At **Fayetteville State University**, during the COVID-19 pandemic, in addition to reviewing course-level data, the institution intentionally gathered data from students directly — via surveys and feedback — regarding courses that presented challenges and why. This enabled the institution to redirect resources related to course redesign and academic support areas informed by students in real-time.


Secure sustainable resources and funding and explore flexible funding options such as the institution's own foundation or philanthropic grants

Each profiled institution has secured funding specifically allocated to digital learning, which includes staff and technology. The most common funding mechanisms are the use of a digital learning fee to students, allocation of part of the centralized budget, and philanthropic or grant-funded initiatives. The recent federal funds available through the CARES and American Rescue Plan Act represent opportunities for institutions to invest in one-time infrastructure improvements. A key challenge institutions balance is making critical investments while keeping costs to students minimal. Philanthropic and grant funding are key for ensuring sustainable momentum, new initiatives focused on digital learning, and student success, while also building capacity. Most importantly, ensuring sustainable funding and that any initiatives primarily funded via philanthropy or grants are secure.

 The **Tennessee Board of Regents (TBR)** is primarily funded by the legislature and institutional charge backs. However, they strategically use external grant funding to finance new initiatives. For the past several years, TBR's professional learning efforts received funding in part by a grant from the Bill & Melinda Gates Foundation. TBR uses the state-allocated Access & Diversity (A&D) funds to support faculty learning. Targeted external grant funding also supports new initiatives (e.g., closing the equity gap for Black male students) that do not have funding allocated from existing revenue streams.

Empower faculty and department leaders to take risks and align incentives and policies accordingly

Using digital learning as a tool to increase equitable outcomes requires faculty leadership and the creation of a culture that values thoughtful incorporation of new pedagogies and tools. It also requires that faculty are supported — through the use of instructional design, technology support, professional development, and release time, and supportive tenure promotion policies that focus on high-quality teaching.

 At **Fresno State**, this notion of faculty-led experimentation is part of the institution's ethos. Faculty who adopt or pilot new teaching approaches receive support in this work and encouragement to share learnings — whether they result in successes or failures, and institutional assessment partners with instructors to support the evaluation of efforts.

Use data disaggregated by race, income, and other student characteristics to inform decision-making and ongoing learning

The use of data to assess progress, challenges, and make decisions about areas for future improvement is critically important for leading digital learning initiatives. Ensuring disaggregation and viewing of data by student demographics is an essential element to tracking progress towards closing equity gaps and informing interventions and learnings.

- 🏛️ At **Georgia State University**, the institution invests in an internal learning analytics platform and team. The Learning Analytics team at Georgia State works closely with personnel from instructional design and student success to develop data tracking tools that are best suited for their intended outcome. This partnership enables the teams to co-design tools and interventions that are most effective for faculty and students.
- 🏛️ The **Tennessee Board of Regents** developed campus-level dashboards and equity profiles that track college progress toward goals related to equity. These are publicly available and encourage broad accountability and action toward equity goals that cut across the institution and system. In addition, the system couples these dashboards with equity coaching support from Achieving the Dream to act on practices to close equity gaps.

ADDITIONAL RESOURCES

- 📖 This [Digital Learning Return on Investment \(ROI\) Resource](#), presented by Every Learner, is useful to institutional leaders making important decisions related to budget allocation and investment as they pursue digital learning initiatives.
- 📖 [Making Digital Learning Work](#) examines six case study institutions to evaluate the costs and benefits of scaling digital learning along three dimensions: access, outcomes, and economics for students and institutions.
- 📖 Using data to show how institutions view and scale digital learning initiatives, [Bridging the Gap Between Digital Learning Strategy and Execution](#) includes actionable recommendations from high-performing institutions that educational leaders can incorporate into their digital learning strategies.
- 📖 [Improving Critical Courses Using Digital Learning and Evidence-based Pedagogy. A Guide for Academic Administrators](#) is an actionable guidebook for academic leaders seeking to improve key courses and manage institutional change.

Practice in Action: Course Design and Delivery




- Course design focused on student needs and equitable outcomes
 - Policies to ensure consistent course quality
 - Data used to target course redesign
 - Faculty support for implementing digital pedagogy and tools
 - Faculty-led course improvement activities
 - Adaptive courseware for personalized learning
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A consistent, equity-centered approach to course design and delivery is an important element for institutions that use digital tools to transform teaching and learning. Faculty and staff must work together to ensure student access to affordable, equitable, and effective learning experiences and support in their transitions to online learning. We suggest the following strategies to enhance course design and delivery in service of equitable outcomes:


Implement policies that ensure consistent course quality and equity are part of the course's framework

In order to scale digital learning across institutions, it is crucial to establish standardized processes, such as quality frameworks and clear policies for course design and digital tools selection. While not every redesigned course will initially run smoothly in its new modality or with the use of new tools, faculty and staff must work together to develop a protocol to mitigate as many challenges as possible when courses are designed and offered to students. Senior leadership and staff must also support faculty as they design and teach courses with digital components so that students may experience high-quality learning experiences.

 At the **University of Texas at El Paso (UTEP)**, as part of their Southern Association of Colleges and Schools Commission on Colleges (SACSCC) accreditation, all faculty are required to attend a four-week, synchronous-based course before receiving approval as online or hybrid course instructors. A primary focus of this course is for faculty to reflect on the particular talents and challenges of UTEP's student population as they design their courses, thus promoting equitable and holistic student support. Online-based courses are also required to undergo two stages of review based on course quality and accessibility before deployment. Over time, departments adopted an instructional philosophy which emphasizes that all courses, regardless of modality, should follow design principles that require quality and technical reviews. This helps ensure that the benefits and equity standards of digital learning are inherent in all courses, regardless of modality.

Use data, disaggregated by student characteristics, including race and income, to inform and evaluate the effectiveness of course redesign

Many institutions with success in improving student outcomes prioritize courses for redesign that have high overall DFW rates and achievement gaps across student groups. Targeting these courses is fundamental to institutions' efforts to close equity gaps. Using data to inform decision-making is a practice that, in general, ensures the leverage of digital learning to meet student needs where they are most critical.

 Consider **Fayetteville State University**, whose Provost launched a survey during the pandemic asking all students which courses were challenging to take in the digital environment. The institution then applied this survey data to course redesign efforts, ensuring the revision of the most commonly cited courses to better suit the digital environment and enable student success. In their redesign activities, Fayetteville leveraged external support to coordinate effective, high-quality course design. The institution engaged Quality Matters (QM) experts in the UNC system to help their faculty redesign courses to meet students' needs.

Reflect on Your Course Design and Faculty Support

How are you supporting faculty in the design and delivery of courses? What resources exist on campus or externally that faculty can rely on for support and advice on **teaching, technology, and supporting students**?


Is the institution providing faculty with the training necessary to effectively adopt, implement, and sustain use of digital learning technologies in the classroom? Are there professional development offerings advising faculty on:

- What tools are currently available to support their teaching and students?
- How to effectively use those tools in and outside of the classroom?
- Where to go for continued technology support and where to send their students for tech support?
- How to appropriately integrate technology into their teaching practice?
- How to use and interpret data to support students and evaluate their own teaching?

Do faculty know about available student support services and the appropriate steps for connecting students to relevant services? Is there clarity around roles and responsibilities for student care and outreach?

Center course design around students' needs, with a focus on equity


Based on the ongoing disaggregation of data and where student learning is stymied, iterative course design and replacement of content and assessment should be undertaken. Collaboratively, faculty and instructional design experts should create additional course interventions that are specifically designed to address inequity.


 **Fresno State**, for example, applies course-level data to inform digital learning initiatives as part of their campus-wide effort to improve equitable student outcomes. They particularly sought to decrease DFW rates in freshman-level, gateway courses by targeting course redesign in the courses experiencing the highest DFW rates overall and for minoritized populations. Being located in a rural

region, one of the barriers that students face is access to Wi-Fi and devices. By design, Fresno State's DISCOVERe initiative is responsive to student needs, whereby instructors redesign gateway courses to incorporate digital pedagogies and ensure they are mobile-device accessible. Students enrolled in DISCOVERe courses receive access to technology tools and devices at no additional cost. As of the Fall 2021 semester, 30 faculty members teach DISCOVERe courses redesigned for first-year students. This effort enables students from rural and poverty-affected areas to access course materials.

Consider adaptive courseware as a tool to personalize learning and achieve better student outcomes

Combined with other practices such as the use of learning analytics, active learning, and flipped classrooms, adaptive courseware grants students an individualized learning experience that allows them to engage with the course content at a pace that works for them. The software provides guided feedback, so instructor and student have insight into where the student might be struggling. The instructor can intervene accordingly. Faculty and institutions should be intentional about ensuring equitable access to the courseware by ensuring smooth onboarding, access to devices and the internet, mobile access, and digital literacy.

 **Tri-C** takes a faculty-driven approach to scaling adaptive courseware, in which leadership hosts a faculty learning community for any faculty members interested in implementing adaptive courseware in their classrooms. Leadership also provides faculty with additional pay to participate, using grant funding to give faculty release time. As of 2019, Tri-C has 52 courses across seven disciplines. These investments are core to scaling adoption and developing a campus culture of collaboration and inclusivity, which spreads adoption through a combination of faculty word of mouth and peer-to-peer support.

 During the 2019-2020 academic year, **Fayetteville State University** facilitated a pilot in which they implemented adaptive courseware in introductory-level Math, Physics, History, and Chemistry courses. After the pilot, Fayetteville compared DFW rates between sections that did implement adaptive courseware and those that did not, and they saw improved consistency of grades across the courses. Importantly, Fayetteville also gathered student and faculty survey data to assess the efficacy of the tool in affected courses. As of 2020, 75% of Fayetteville students who used adaptive courseware in their section “strongly agreed” that it helped them understand the material better, and 75% “strongly agreed” that they would like to use the tool in other courses, as well.² Similarly among faculty, nearly 70% said that adaptive courseware “contributed significantly” to enabling a greater proportion of their students to earn a grade of C or better, and over 80% of faculty reported that it “contributed significantly” to helping students across the board increase their level of comprehension.

² McElveen, G. (2020, July). *Fayetteville State University: Adaptive Learning Pilot* [PowerPoint slides]. Fayetteville State University.

Engage faculty — including adjunct faculty — in course improvement activities

It is important that faculty are empowered and supported to lead course development. As they share ideas, pilots, and anecdotes with one another, institutions benefit from a culture of ongoing learning, and students benefit from having instructors who feel invested in the courses they are teaching. Senior leadership can provide faculty with the trust, resources, and time to design and redesign courses with digital learning components in order to maximize the sustainability of those initiatives.

🏛️ At Tri-C, faculty designate professional learning topics that are of interest and urgency to them by forming faculty learning communities around relevant topics. With the support of senior leadership, faculty create and sustain faculty learning communities, which ensure the tailoring of professional development topics to their classroom and pedagogical needs as they adopt digital teaching tools and strategies. As a result, Tri-C is able to cultivate buy-in across digital learning initiatives. Importantly, the learning often goes beyond the faculty learning communities themselves: through workshops and other gatherings at the College, faculty share their findings with each other and discuss ways they could adopt the practice as well. The faculty-led implementation of adaptive courseware in several gateway courses across seven disciplines is one example of Tri-C faculty driving the organic adoption of new tools and pedagogy.

Integrate high-impact practices into digital infrastructure and course design at the institutional and course levels

Faculty and staff can implement high-impact practices (HIPs) consistently across the curriculum to promote equitable student outcomes. Integrating HIPs into digital learning frameworks like course shells and syllabus templates can reinforce the institution-wide commitment to them.

🏛️ To fulfill equity and promote student success, TBR increasingly adopts HIPs as a key component of their strategic plan's "completion" pillar, which emphasizes helping students address and confront any existing barriers to completing their programs. TBR works to scale and code HIPs across their system with the goal of each student participating in a minimum of two HIPs before they graduate. TBR also built a HIP Ambassador Program (consisting of master faculty who lead a community of practice among the institutions) and provided faculty with HIP Video Summaries, short videos that describe each HIP that can be used to improve student success across course modalities. The system-driven HIP of Technology Enhanced Learning is particularly impactful. To facilitate the adoption of this HIP, the Office of Student Success shared a Technology Enhanced Learning (TEL) Taxonomy with instructors that focuses on instructional practices that leverage digital technologies to enhance teaching and learning.

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- 🏛️ “High-impact” is not limited to teaching practices; consider **UTEP**, which implements “high-impact experiences” at their institution. With an asset-based approach to education, UTEP seeks to empower students by helping them identify their strengths and access experiences to further develop their talents. UTEP integrates a series of high-impact experiences (“Edge Experiences”) and core competencies (“Edge Advantages”) into students’ academic coursework and co-curricular activities. An internal fellowship program engages faculty members in identifying Edge Experiences for highlighting and embedding in their courses to create Edge Advantages for students.

ADDITIONAL RESOURCES

- 📖 [OLC’s Quality Course Teaching and Instructional Practice \(QCTIP\) Scorecard](#) is used to evaluate the comprehensive overview of the learning environment in 10 key areas including those critical to equitable course design.
- 📖 [Optimizing High-Quality Digital Learning Experiences: A Playbook for Faculty](#) assists faculty as they strategically embed digital technologies and pedagogies into their courses to promote student success. With an emphasis on equity and accessibility, particularly for minoritized students, this resource supports faculty as they thoughtfully design inclusive, high-quality digital learning experiences.
- 📖 [Quality Matters](#) offers curriculum and support around course design, professional development, and robust review processes for online learning. Especially relevant to digital learning transformation is their set of higher education rubric standards intended to assist the course design of online and blended courses.
- 📖 The [Adaptive Courseware Implementation Guide](#) provides academic leaders with practical strategies and resources to implement adaptive courseware with an equity-minded and student-centered approach.
- 📖 [Coursegateway.org](#) is a freely available tool designed to support instructors and instructional staff in selecting and implementing high-quality digital learning tools within courses that enable equitable teaching. Digital courseware and tools receive evaluation relative to equity, efficacy, functionality, and systems capabilities.

Practice in Action: Evaluation and Analytics




- Availability of learning analytics and faculty training on how to use it
 - Proactive use of data to inform course-level improvement
 - Disaggregated data by student characteristics (race, income, etc.)
 - Mechanisms to interpret and act on data incorporate diverse perspectives
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Digital learning tools produce powerful learning data used in powerful ways to provide students with personalized learning paths, to adjust and improve learning overall, to identify and intervene with students who need support, to address inequitable outcomes across different student groups, and to inform and improve teaching and curricular decisions. Today, few institutions report using learning analytics data to their full potential, and among the most cited challenges are data availability and the ease with which data can be interpreted in ways that inform action.³


Institutions implementing learning analytics data at scale need to create capacity to enable stakeholders to view and use data and equally important is the creation of a culture of learning and improving supported by structures for acting on learnings. We recommend that institutions take the following steps when considering how to implement analytics to assess digital learning efforts and their impact on equity.

Invest in capacity at the institutional level to support the use of data

To support investment in the use of broad-scale data analytics across courses and sections, an institutional commitment to making data available and supporting faculty in the use of and interpretation of data and how to act on it is an important step. But even where sophisticated learning analytics dashboards are not in place, there are important steps that can be taken to ensure instructors can use available data to inform instruction and course improvement.


 **Fayetteville State University's** use of student surveys is a good example of using qualitative data for continuous improvement. When the Provost launched a survey asking all students which courses were challenging to take in the digital environment, the survey data is used to inform needs for course redesign, contributing to the culture of trust and transparency and commitment to continuous improvement and quality.

³ Tyton Partners and Every Learner Everywhere. (2020, August). *Learning Analytics Strategy Toolkit*. Every Learner Everywhere. <https://www.everylearnereverywhere.org/resources/learning-analytics-strategy-toolkit/>.

 To support partnership and decision-making across teams, **Fresno State** internally created Tableau dashboards that allow for data visualizations that are accessible across campus and for faculty to disaggregate data. Faculty and staff use these data presentations to learn what's working and not working in their classrooms, and enables them to work towards more equitable student outcomes. In this case, creating relationships with faculty across campus is important, especially when used alongside data available for accessibility in real time. They also support instructors in ongoing improvement and experimentation in their teaching. When instructors implement new digital tools or practices in the classroom, they work with the Office of Institutional Research to design an evaluation approach that enables them to assess impact and adjust accordingly.

Disaggregate data by student demographic information, including race and income

One key challenge that faculty cite is the lack of access to relevant data, so a first step is ensuring that stakeholders have appropriate access to student data, including data disaggregated by race.

 The **Tennessee Board of Regents** developed campus-level dashboards and equity profiles that track college progress towards goals related to equity. This publicly available information encourages broad accountability and action toward equity goals that cut across the institution and system. In addition, the system couples these dashboards with equity coaching support from Achieving the Dream to act on practices to close equity gaps.

Tips for Using Data to Identify the Needs of Minoritized College Students

Qualitative Data:

- Include open-ended question items as part of regular assignments in the semester. For example, "What made it difficult for you to learn this week?"
- Conduct focus groups or interviews. For example, "What resources have been the most beneficial for your success?"
- Ask these questions early and throughout the term.
- Find out if there are offices or departments on campus already asking these questions and collecting this data. How are they capturing the lived experiences of students?


Quantitative Data:


- Disaggregate data that is already being collected (e.g., Retention rates, success rates, etc.) by student identities (e.g., Race/ethnicity, Pell eligibility status, first generation status, etc.).
- Use generated data (e.g., Signing in to the LMS within the first week, first quiz or exam score) as early indicators within courses to determine where additional support might be needed.
- Sources can include LMS's, courseware, instructional tools, and advising tools.

Create a culture of using data for learning and improvement and involve diverse campus voices in the interpretation of data




Data analytics should be used to inform areas that need improvements and inform next steps. However, to achieve this, a culture of trust and transparency around data use needs to be developed. Institutions that do this well often focus on three things:

- **Emphasizing student equity and the shared responsibility of instructors and the institution in achieving this goal**
- **Focusing on collaborative and exploratory approaches to using learning data that are not competitive or punitive**
- **Making sure available support for faculty and students is clear and transparent so that they can take action based on learnings**

 **Fresno State** partners with faculty to design evaluation approaches to piloted digital learning efforts that will enable review of the impact of the practice. Where possible, data is disaggregated by student demographics. Many successful pilots demonstrate impact and are scaled further. Many others are not successful, but produce learnings about what works and what doesn't. The leadership celebrates those learnings and shares them along with successes, modeling a collaborative learning culture.

 **Ivy Tech** reviews course outcome data across sections each term, identifying where there are overall performance gaps or challenges across student groups. They use this information to identify courses where improvement is needed and to work collaboratively with course coordinators and faculty to adjust course design and instruction as needed.

ADDITIONAL RESOURCES

-  The [Learning Analytics Strategy Toolkit](#) includes guiding principles for learning analytics implementation, especially as it relates to achieving equity in academic outcomes. As faculty and staff think about how to leverage learning analytics to personalize instruction, this resource provides insight into effective strategies for data analysis and student success.
-  Using an evidence-based framework focused on equity, [Guiding Principles and Strategies for Learning Analytics Implementation](#) shares four guiding principles and their accompanying strategies for institutions to move forward with the implementation of learning analytics.
-  This [Georgia State University Case Study](#) demonstrates Georgia State's effective use of analytics, as well as notable challenges and strategies for success that other institutional leaders and faculty can take into consideration as they scale the use of learning analytics at their own institutions.

Practice in Action: Student Success for Digital Learning




- Access to devices and internet
 - Readiness to use digital tools
 - Accessible technology
 - Affordable materials
 - Provision of academic support
 - Use of data to support student progress and success
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Many institutions that implement digital learning deem student success their ultimate objective, so the adequate provision of academic support that supports learning is critical. Being student-centered means ensuring that courses are accessible and affordable, and students can access and understand the digital learning tools necessary for success. This requires coordinated effort across the institution, with faculty, advisors, administrators, and IT staff engaged in strategies for student success. Students and faculty need to know where support is available and easily accessible. To promote student success and equitable outcomes, we recommend that institutions consider the following practices:


Ensure access to devices and the internet for all students, instructors, and staff

Success using digital tools requires access to digital devices and the internet. The equitable distribution of such resources is vital, too, so that all learners may engage in the classroom. Because learning happens on- and off-campus, internet access is a must regardless of student location. Being intentional about funding initiatives that provide students with digital tools ensures that as soon as the student engages in digital learning, no student is left behind without access. Given the ubiquity of mobile devices and the frequency with which many students use mobile devices to access courses, using mobile compatible are also a major equity consideration.

 A key initiative at Tri-C is getting devices into the hands of students by providing free and reduced-cost laptops through its Student Laptop Program (SLP) and LEVEL UP (LEV) student laptop program, both funded primarily by the Cuyahoga Community College Foundation. Designed to increase access to digital tools and improve student success, these programs work in parallel with Tri-C's efforts to expand Wi-Fi access to campus parking lots to promote student access to technology and the internet.


Support students' readiness to use digital tools

In order to drive digital learning initiatives forward in an equitable way, it is crucial that institutions ensure fundamental digital literacy among students. Because not all students enter or go through higher education with equal experiences with technology, it is important that institutions proactively provide students with the opportunities to learn and adapt to new tools and practices as they engage in digital learning and to do so in ways that do not create further barriers. For example, embedding digital literacy assignments and supports into the first week of gateway classes is one way institutions can ensure that students have time and space to learn and complete necessary assignments.

 Having noted some fundamental digital literacy challenges among students and faculty, Tri-C's Office of Online Learning and Technology created a [Basic Computer Skills Course](#) with a wide array of modules originally adapted from Fox Valley Community College. Launched in August 2021, the course is available online to faculty, students, and the public. In addition, Tri-C offers a "My Online Readiness Experience" (M.O.R.E.) for students so they can familiarize themselves with their learning management platform. The M.O.R.E. is available through Blackboard Learn to students once accepted to Tri-C and takes approximately an hour to complete. The M.O.R.E. is mandatory for all students to ensure baseline digital literacy across the institution and includes three graded sections: Technology, Study Skills, and Communication Skills.

Prioritize affordable course materials for students

An estimated 63% of students skip buying or renting a textbook due to high costs, representing a barrier to success in their coursework.⁴ Many institutions use open educational resources (OER) initiatives as a common first step in creating cost savings, while partnering with local bookstores is an additional approach. In order to promote equity and ensure impactful learning experiences for all students, institutions should prioritize effectiveness where costs to students are lowered while making sure more equitable student outcomes are achieved.

 Consider the **Tennessee Board of Regents**, which works in partnership with a statewide initiative to encourage OER adoption across their colleges and ensure that all learners have access to affordable course materials on day one. By allocating grant funding to individual institutions and leveraging system-level staff to scale this OER initiative, TBR assists their colleges in overcoming high textbook costs, which are a consistent barrier to student success. Additional faculty and courses using OER are added across the system every year, and courses are flagged as OER in the catalog so that students can make informed choices. To ensure that students understand what OER means for their education, faculty and advisors at the institutional level advise students about no- or low-cost materials and their benefits. This year, TBR's 2021-2022 cohort of students will save \$1.14 million by using OER compared to used textbooks.

⁴ Nagle, C., & Vitez, K. (2020, June). *Fixing the Broken Textbook Market*. U.S. Public Interest Research Group. <https://us-pirg.org/feature/usp/fixing-broken-textbook-market>.

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- 🏛️ At **UTEP**, the selection and implementation of adaptive courseware considers costs to the student as paramount. Viewing the use of adaptive courseware, combined with OER content as an opportunity to increase student access and success in gateway courses, a team of Biology faculty partner to integrate an adaptive platform that uses OER content in introductory courses. The institution also plans to identify courses as “Low cost” in the UTEP course catalog to assist students in identifying which courses provide these opportunities.
 - 🏛️ **Ivy Tech** has an inclusive tuition model in response to ongoing concerns about course materials access. Working in collaboration with their bookstore vendor, Ivy Tech negotiated an inclusive access contract paid for directly by the institution that ensures all students have access to their course materials in their LMS course on day one and with no additional expenses beyond their tuition and fees.


Offer proactive academic support for students across modalities

It is important to design academic supports that are easily accessed by students, and that take into consideration the varied schedules, experiences, and challenges that students may have in seeking help or support. Proactive outreach from instructors, teaching assistants, and peers, and embedding resources into digital learning platforms frequently used by students, are among the ways that support can be inclusive and effective and shifts the burden of seeking and providing support from students to the institution.




- 🏛️ At **Georgia State University** in 2020, the Learning Analytics team partnered with the Student Success Office to develop a dashboard tool for faculty to monitor students’ engagement with their courses and make an informed decision on conducting outreach or “nudging” a student. Since scaling this initiative, faculty across Georgia State use this tool to access student activity data, contact information, and other relevant information to support students. Following the implementation of this “nudge” tool, Georgia State decreased DFW rates from 40% to 19% in the first semester of use. Whether students are learning in a digital or face-to-face environment, this tool serves as a valuable resource in connecting faculty with students to support their success.
- 🏛️ At **Fayetteville State University**, in addition to academic advisors and tutors, the institution has peer coaches that help answer questions from students, serving as navigators and guides to assist students in their learning. FSU also implemented technology tools to facilitate student support resources. One example is Upswing, a platform that helps students navigate all support resources and schedule coaching and advising sessions on-campus as well as virtually.

Leverage data to target student supports and improve student outcomes

In deciding when, where, and how to intervene to improve student outcomes, institutional leaders and faculty members can utilize data to strategize effectively. By using course-level data, especially if disaggregated by student identities, faculty and staff can find courses, practices, or students that might benefit from targeted resources. Similarly, faculty can leverage learning analytics to identify students who might be falling behind in their courses. Faculty can then apply this data by engaging more intentionally with students, “meeting them where they are,” and conducting outreach during critical moments in their learning experiences.

 In working to disaggregate data regarding student success measures, **Ivy Tech** discovered that certain student populations succeeded at rates lower than other populations. In response, Ivy Tech invests in targeted coaching and support models. To enable these efforts to move quickly and with focused expertise, Ivy Tech partners with an external coaching resource, Inside Track, to bring in external capacity.

ADDITIONAL RESOURCES

-  The [Learning Analytics Strategy Toolkit](#) includes guiding principles for learning analytics implementation, especially as it relates to achieving equity in academic outcomes. As faculty and staff think about how to leverage learning analytics to personalize instruction, this resource provides insight into effective strategies for data analysis and student success.
-  Student Success must be equity-focused to truly promote positive outcomes for all students. [Getting Started with Equity: A Guide for Academic Department Leaders](#) is a guide to help educators learn more about diversity, equity, and inclusion and work toward equity in their curricula and teaching.
-  Intended to help institutional leaders improve courseware accessibility, the [Framework of Accessibility Approaches](#) provides a summary of approaches to developing and evaluating accessible and inclusive courseware.

Practice in Action: Professional Learning



- Targeted and regular professional development on digital learning and equity
 - Policies and practices that support continuous learning for all instructors
 - Devoted funding and infrastructure for faculty support and development (CTL, instructional design, etc.)
 - Faculty-led professional learning prioritization and learning communities
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Professional learning is a critical component of digital learning infrastructure at institutions. While faculty are key audiences for professional learning, also consider faculty coordinators, instructional designers, instructional technologists, teaching assistants, and administrators in the design and implementation of professional learning. Many institutions engage faculty with expertise in digital learning as leaders of learning communities and learning efforts. Effective professional learning helps faculty and staff navigate all aspects of digital learning practices, including equitable course design and delivery, student support, evaluation and analytics, and technology. Professional learning needs a clear focus on digital learning and equity with a primary learning outcome in closing equity gaps at the course level (including DFW rates, variances between sections) as well as the institutional level (retention and graduation rates).



Scaled professional learning is supported by institution-wide and department-wide culture, policies, practices, and devoted funding, not only to enable the learning process but also to incentivize faculty participation. We recommend that institutions take the following actions to invest in high-quality professional learning related to digital learning:

Provide faculty support and time for implementing digital pedagogy and tools, including adjunct faculty

Faculty support for selecting digital tools, technology procurement, and incorporation of digital pedagogy is important to ensuring that instructors have the resources to successfully implement digital learning. As faculty adopt new digital tools, teach using new designs, and offer different course modalities, they require time and resources to make these changes effectively.


 At Ivy Tech, course design focuses on providing resources and support to instructors to promote consistent and high-quality courses. To support instructors as they adapt

to digital teaching environments, Ivy Tech invests in a team of faculty experts that mentor instructors and support their ongoing development in courses. The supports provided have a particular focus on fostering quality instruction and on creating engaging courses that incorporate active learning. Course-level data is included in annual reviews of faculty, which include adjunct faculty.

-  **Fayetteville State University** requires all faculty to go through a certification program before teaching their first hybrid or online course. This internal training uses rubrics and materials on course design, redesign, and delivery of high-quality hybrid and online courses. Before faculty members receive their certification, they must develop their course so that it meets all Quality Matters standards. For on-campus courses, FSU also launched the integration and implementation of adaptive courseware under the same accreditation quality enhancement initiative. The Office of Faculty Development and Online Education facilitates the certification program and supports faculty through this certification process to ensure high-quality digital learning experiences for students across the institution.
-  At **Fresno State**, senior leadership continually allocates funding to professional development opportunities to ensure that faculty get the skills and confidence to redesign and teach courses in a digital environment. Through the Center for Faculty Excellence, Fresno State supports instructors through a variety of certification offerings related to course design and instructional practices, as well as diversity, equity, and inclusion. As the institution scales digital learning initiatives, faculty receive digital devices and accompanying professional learning to effectively leverage these devices in their classrooms and engage students in digital modalities. Additionally, Fresno State uses third party partners, such as ACUE, to provide additional capacity and expertise for faculty professional learning.

Engage faculty in leading and designing professional learning in peer groups to incentivize faculty participation

A best practice in higher education professional learning is community orientation training designed and led by faculty in cohorts. This practice not only helps trainers tailor the learning content to faculty's day-to-day practices and challenge, but also encourages faculty buy-in and helps build close connections between faculty members.

-  **Tri-C** takes a faculty-driven approach to professional learning and tailors topics and incentives to faculty needs. By granting faculty the agency to designate professional learning topics that are of interest and urgency to them, Tri-C cultivates buy-in across digital learning initiatives. With the support of senior leadership, faculty create and sustain faculty learning communities, which ensure that professional development topics are highly tailored to their classroom and pedagogical needs.

Equity Considerations for Supporting Faculty and Instructional Staff


Equitable practices are not just student-centered, they also consider the inequities faced by faculty and staff:

- Time allocations for training, onboarding, and continued implementation of teaching with technology.
- Technology access and costs (device, internet, maintenance).
- Considerations of departmental or institutional policies and how they may create barriers or inequities across faculty groups (e.g. adjunct faculty, tenure track, Graduate instructors).
- Additional training and resource accommodations for adjuncts of other faculty who lack institutional support.
- Staff resources for health, well-being, and disability services.
- Robust and culturally competent Human Resources practices that prioritize the mental and physical well-being, as well as programs and benefits for financial well-being and social service accommodations.

Consider who your faculty and teaching staff are. What institutional policy and resourcing could break down structural barriers and inequities that they may be facing ?

Consider different approaches to building digital learning capacity, including consortia and external partners

Making sure that professional learning is centrally available and funded enables equitable access across departments and faculty levels.

-  Within the **Tennessee Board of Regents**, their centralized professional learning is funded, managed, and led across their system, to encourage the adoption of digital learning tools and promote student success. However, faculty voices are not lost in this top-down approach: A key strategy is collaboration with institutional-level faculty “champions;” TBR leadership involves faculty leaders to gather agreement and build consensus, then disseminate goals and strategies to institutions during regular convenings with institutional stakeholders.

ADDITIONAL RESOURCES

- ▣ [A Center for Teaching and Learning Matrix, by ACE and the POD Network](#), is designed to help provosts, deans, and other academic leaders to develop a new CTL aligned with institutional mission and structure or support an existing CTL in pursuit of institutional priorities.
- ▣ [Time for Class 2020: Professional Development Practices of Faculty Teaching Online](#) points to a wealth of resources that institutional leaders and faculty members can utilize as they tailor professional learning opportunities and topics to the evolving landscape of digital learning.
- ▣ [The New Learning Compact](#) is a framework for Professional Learning and Educational Change that seeks to advance effective use of professional learning and educational development to support equity-minded educational change. This Every Learner resource includes inquiry tools for self-assessment and planning related to professional learning.
- ▣ Every Learner Everywhere offers succinct guidance on [Professional Development](#) and on how academic leaders can focus their professional learning efforts and funding as they scale digital learning tools — particularly adaptive courseware — across their institution.
- ▣ Designed to help faculty collaboratively improve teaching at their institution, the [Guide to Building a Faculty Learning Community](#) describes how to build and maintain faculty learning communities (FLCs) or communities of practice (CoPs).

Practice in Action: Technology Infrastructure




- Inclusion of faculty and student voices in technology selection and procurement processes
 - Policies to encourage the adoption of tools that are interoperable, accessible, equitable, and high-quality
 - Support and guidance for procurement of technology and tools
 - Equitable access to technology among students, faculty, and staff
-


There exists a range of technology tools that are core to teaching and learning. These range from resources selected at the course level (e.g., course materials such as e-texts, instructional tools, courseware), those selected at the departmental level (e.g., courseware), and those selected at the institutional level (e.g., Learning Management Systems).

When making decisions about technology, and considering the equity implications of those decisions, it is important to include faculty and student voices in selection. Also, ensure that policies and guidance are in place so that tools are interoperable, accessible, and high-quality; manage equitable access; and support users (faculty, students, and staff) in technology implementation and ongoing use. Where possible, centralizing procurement across the institution, a system, or consortium also benefits pricing and the user experience. Without low-cost course materials, necessary accessibility, and the digital readiness that come with the access to hardware, technologies could perpetuate or even create new barriers by alienating students who cannot afford high-price textbooks, have trouble consuming the study materials on technology tools, or do not know how to use the technology tools.

Involve faculty and students in decision-making about technology adoption and implementation


One of the common barriers that institutions face is that faculty are self-described as less-experienced purchasers of technology and the process feels overwhelming. On the other hand, many technology leaders are experienced in technology selection and implementation, but are not experts in pedagogy. In addition, students also have varying degrees of experience using technology tools. Therefore, technology procurement and implementation should be a collaborative process, where the voices from the users — faculty and students — should be heard: these processes need to take into consideration faculty and students' needs for accessibility and specific functions, as well as their varying levels of digital literacy.



 **Tri-C** embraces collaboration between technology and academic leadership in technology decision-making and policy development to make sure technology investments align with academic leadership's priorities. Their Tech Governance Committee, co-led by the Vice President and Chief Information Officer (CIO) for Information Technology Services (ITS) and a rotating faculty co-lead, makes recommendations for researching new technologies, retiring old technologies, and then implements activities associated with these efforts. In doing so, this committee supports faculty with the procurement and implementation of relevant technologies as they increasingly incorporate digital tools into their classrooms and pedagogies.


Consider how to ensure students can access the devices, applications, and internet needed to be successful in their coursework

Students have unequal access to internet, devices, and often may need to access materials on a mobile device. Therefore, institutions focused on equitable implementation of technology identify and work to close access gaps that exist at their institution to ensure all students, faculty, and staff are able to access digital tools and benefit from them.

 **Fresno State** makes key investments with a focus on providing students with the appropriate technology infrastructure (i.e., hotspots, iPads, instructional materials). The technology pairs with low-cost course materials and integrated into the devices, and courses redesigned for accessibility. Plus, the institution offers digital literacy training for faculty and students in an effort to ensure technology is closing the digital divide and equity gaps. The successful implementation of Fresno State's technology infrastructure largely benefited from its integrated approach to institutional leadership. Backed by sustained funding and committed leadership, digital learning initiatives — especially efforts to adopt and distribute technology — are well-supported and led to promote faculty support, student engagement, and success.

Select and implement technology that can be equitably used by all students

Students come to their learning experiences with different levels of digital literacy, abilities, and with neurodivergent backgrounds. Considering accessibility and inclusion for all students is important. Universal design for learning focuses on approaches to content and instruction that make it easier for students to engage, interact with, and act on content. Resources available from the federal government through Section 508 and through the WorldWideWeb Consortium also offer helpful guides for institutions. To evaluate the extent that course materials are accessible and equity focused, coursegateway.org can be used to conduct searches for courseware, make informed decisions about courseware adoption, and browse equity evaluations of courseware.

- 
- Tri-C acted quickly to embed an accessibility tool into their LMS, Blackboard, in the Spring of 2020 to respond to accessibility challenges exacerbated by the rapid transition to online learning amidst the COVID-19 pandemic. This accessibility tool seamlessly integrated into their LMS to automatically generate alternative accessible formats, instructor feedback, and an institutional accessibility report. Tri-C's academic leadership team worked collaboratively across technology and professional learning leadership to roll out the tool across the College, along with faculty support. Tri-C also created an accessibility committee to address faculty concerns in the usage and collection of course-level data.

Where possible, consider centralized procurement of technology tools used at the enterprise level (e.g., LMS and direct access to digital course materials) to drive down costs and enable a common student experience

The rollout of a technology implementation initiative across a greater number of users (college level, system level, or even state level) can mean more bargaining power to lower the unit cost. Additionally, having an established set of digital tools across different departments and campuses can help interoperability and interconnectivity, and reduce the cognitive load for students, faculty, and instructional staff.

- At **Ivy Tech Community College**, moving all online courses to be managed by IvyOnline, enabled the institution to invest in central instructional design expertise, course coordinators, analytics, and faculty professional development in service of ensuring high-quality, equitable outcomes across the network of campuses. In addition, this movement enabled the institution to prioritize and sequence courses for redesign based on those where overall student performances and / or equity gaps are greatest.
- The **Tennessee Board of Regents** purchases through a state contract and manages academic IT such as LMS, SIS, and other software with a student data element; this enables the institution to negotiate and manage procurement on behalf of the various campuses. More than half of its 40 member institutions use unified IT systems. This enables the system to negotiate and drive down costs.

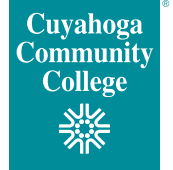
ADDITIONAL RESOURCES

- 📖 Use [Technology and Tool Considerations](#) to ensure prioritization of equity and student voice when scaling technology across institutions.
- 📖 Especially relevant to equity and student success is [Research Review: Educational Technologies and Their Impact on Student Success for Racial and Ethnic Groups of Interest](#), which identifies institutional, instructional, and learning practices mediated by educational technology that positively influence the success of minoritized racial and ethnic groups.
- 📖 Designed to support institutions as they navigate the wide variety of third-party educational technology products and services — or choose to develop products and services in-house — [Facing the “Build or Buy” Question in Digital Learning](#) presents a handful of important considerations for institutions as they make decisions related to digital learning solutions.

APPENDIX





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INSTITUTIONAL CASE STUDY

Cuyahoga Community College

Website 	Location 	Institution Characteristics 	Student Characteristics, Fall 2020* 
tri-c.edu	Cleveland, Ohio	2-year public	40% Age 25+ 34% Pell** 36% Students of color^ 19,000 total undergraduate enrollment^^

Summary

Cuyahoga Community College exhibits a collaborative change management approach to growing the impact of digital learning and improving equitable outcomes for students. Supported by senior academic and technology leadership, faculty engage across academic departments to develop and lead professional learning for other faculty. Leadership also leverages resources to ensure both faculty and students have connectivity, devices, and digital skills to ensure successful digital learning participation.

KEY LESSONS

- Coordination across technology and academic leadership is core to advancing investments in digital learning that are responsive to student and faculty outcomes
- Change management must include faculty-led decision-making and input across academic departments to cultivate faculty buy-in and build increased use of digital learning
- Driving outcomes rests on investing in professional learning infrastructure and personnel to support faculty's adoption of digital learning tools
- Promoting equitable and effective use of digital learning tools relies on fundamental digital literacy and device access among students and faculty

Strategic Goals of Digital Learning

Founded in 1963, Cuyahoga Community College (Tri-C) is Ohio's first and largest community college, annually serving more than 23,000 students across four campuses and at numerous off-campus sites throughout the Cleveland area. As stated in their 2018-2022 strategic plan, Tri-C's initiatives include three foundational principles: access, equity, and success.¹ Tri-C's dedication to these principles motivates their efforts to remove barriers for all students from point of entry to completion. Fundamental to this work is what Dr. Dee Dee Pfister, associate vice president of academic professional development, calls Tri-C's "culture of accessibility," which entails a growing College-wide commitment to improving student success, especially in the digital learning environment. Tri-C's inclusive leadership strategy emphasizes faculty-led decision-making and campus-wide digital literacy as foundational to sustaining momentum in digital learning, which the College uses to help eliminate achievement gaps.

Organizational Model to Support Digital Learning

Tri-C's leadership structure in the Learning and Engagement Division (Academic Affairs) oversees the College's digital learning initiatives. Also housed in Academic Affairs, professional learning and technology support are key to Tri-C's success. The Online Learning and Academic Technology (OLAT) department — an executive director, director, instructional designer, digital media specialist, LMS and video system administrators, and level 2 and 3 help desk support specialists — leads the adoption of academic technology across the College. Tri-C also has a Distance Learning Steering Committee (DLSC), which is an American Association of University Professors (AAUP) contract committee comprised of faculty and administrators responsible for making recommendations about online learning and academic technology related to synchronous, asynchronous, and blended learning. Co-led by the OLAT executive director and a rotating faculty co-lead, the committee meets every three weeks and focuses on facilitating student success and access to existing learning management solutions.²

Lastly and importantly, a Tech Forum Review board — individuals from Academic and Student Affairs, Administration and Finance (A&F), and Corporate College and Workforce Community and Economic Development (WCED) — works to ensure that administrative and academic technology-based projects are fully researched, selected, and implemented in alignment with the College's strategic plan.

Each of Tri-C's four campuses owns a Center for Learning Excellence (CLE) with instructional designers and technologists who engage with individual faculty to build and design courses across modalities. The CLEs collaborate with the college-wide centralized OLAT office and Academic Professional Development to embed equity into digital teaching and learning strategies.

1 Cuyahoga Community College. (2021). Strategic Plan for Cuyahoga Community College. Accessed September 2021. <https://www.tri-c.edu/about/strategic-plan.html>.

2 Cuyahoga Community College. (2021). Governance. Accessed September 2021. <https://www.tri-c.edu/online-learning/olat/governance.html>.

Tri-C’s key funding source for digital learning is central budget allocation within the OLAT office. The overall budget for OLAT is \$1.9 million, and significant components include staff salaries, Video Streaming and Lecture Capture, and an LMS contract that benefits all of the campuses. At Tri-C, accelerating the success of digital learning initiatives focused on equity come from increased centralization and coordination, over time, across academic departments.

KEY DIGITAL LEARNING INITIATIVES	PROGRESS MADE
<ul style="list-style-type: none">• Course redesign and implementation of adaptive courseware. High-level initiatives and decision-making include faculty input.• Professional learning focused on equity. A faculty-driven approach to professional learning.• Targeted student support. Free digital literacy training and free or low-cost device access.• Collaborative leadership of digital learning investments. Intentional coordination of technology procurement and implementation across academic and technology leadership.	<ul style="list-style-type: none">• Faculty engagement in institutional change-making and learning communities contributes to ongoing increases in the integration of digital learning and sustained momentum.• Pass rates in Psychology 1010 at Eastern Campus increased by 10 percentage points following the introduction of adaptive courseware.• Students experience improved digital learning readiness: over 7,500 students successfully completed digital literacy training through the My Online Readiness Experience (M.O.R.E) as of September 2021.• Collaborative approach across academic and IT leadership results in more efficient and effective adoption of digital tools.



Leadership, Budget, and Policy

Tri-C includes faculty in decision-making and implementation of digital learning initiatives.

In order to achieve a transparent leadership approach, Tri-C invests in faculty development coordinators and OLAT faculty ambassadors to ensure that faculty contribute their ideas to the institution's digital learning strategies and initiatives. By intentionally making space for faculty voices and cultivating a campus-wide culture of collaboration, Tri-C inclusively develops and scales digital learning initiatives across the institution.

Goal

The Office of Academic Professional Development prioritizes faculty voices in strategic and tactical initiatives as a key strategy to cultivate buy-in and to achieve momentum in digital learning.

Investments and Actions

Tri-C invests in one college-wide faculty development coordinator and equips each of the four campuses with its own faculty development coordinator, as well. Faculty development coordinators are full-time faculty who meet weekly with leadership, serving as liaisons between faculty and senior leaders. The primary role of faculty development coordinators is to seek feedback from their campus regarding faculty training and professional development needs, identify gaps in support, and help develop workshops and programming as a response. They also serve as faculty professional development and academic technology champions as they will adopt digital tools for their classrooms across all modalities.

Tri-C leadership works closely with faculty development coordinators as well as their two centralized OLAT ambassadors, who are full-time faculty members who attend regular meetings with leadership. Having OLAT ambassadors involved in high-level discussions is a key part of the effort that Tri-C makes to cultivate transparent decision-making processes. To incentivize and provide support for OLAT ambassadors, the faculty get time away from teaching each semester to review and pilot classroom technology, attend meetings, and support faculty with technology.

In addition to including faculty in high-level decision making, Tri-C invests in collaboration between technology and academic leadership to enable ongoing adoption of high-quality digital learning pedagogies. For example, Tri-C developed a Tech Governance committee (co-led by the vice president and CIO for ITS and a rotating faculty co-lead) responsible for making recommendations for researching new technologies, retiring old technologies, and the implementation activities associated with these efforts. In doing so, this committee supports faculty with the procurement and implementation of relevant technologies as they increasingly incorporate digital tools into their classrooms and pedagogies.

Finally, Tri-C's 2021 Transformation Plan positions the college for a successful future in the area of innovation, teaching, and learning. In alignment with the Transformation Plan's goal to improve course delivery, enhance virtual infrastructure, and improve access and support for students and faculty, Tri-C is embarking on a learning management systems (LMS) review project. The LMS review project aims to find the best technology solution to connect students, faculty, and content as it becomes more important to integrate modern teaching technology. The overall project goal is for the OLAT team to collaborate with a cross-functional faculty, staff, student, and administrative team to research, test, select, and implement an LMS for Tri-C by Summer 2026.

Progress Made

One result of the Tech Governance committee is the fast and effective selection of an accessibility tool to embed into their LMS, Blackboard. In Spring 2020, Tri-C acted quickly to implement a tool to respond to accessibility challenges exacerbated by the rapid transition to online amidst the COVID-19 pandemic. This tool – selected, piloted, and implemented in a collaborative manner – seamlessly integrated into the LMS to automatically generate alternative accessible formats, course accessibility reports, and an institutional accessibility report. The technology and academic leadership team then took the results of the initial implementation and worked collaboratively across technology and professional learning leadership to roll out the tool more broadly, along with faculty support.

Overall, Tri-C's shared governance approach strengthens faculty endorsement of College initiatives. According to Kara DePaul, director of Tri-C's Academic Professional Development, effective decision-making demands "a lot of time, energy, and effort from many internal stakeholders." Tri-C's inclusive and collaborative approach to decision-making supports their ability to make sustained progress in digital learning that can scale across the institution.



Professional Learning

Tri-C takes a faculty-driven approach to professional learning and tailors topics and incentives to faculty needs.

Tri-C's professional learning is run by faculty, for faculty. By granting faculty the agency to designate professional learning topics that are of interest and urgency to them, Tri-C is able to cultivate buy-in across digital learning initiatives. With the support of senior leadership, faculty create and sustain faculty learning communities (FLC), which ensure that professional development topics are highly tailored to their classroom and pedagogical needs.

Goal

FLC campus facilitators ensure that professional learning topics are of interest and relevance to faculty so that those implementing digital learning tools feel engaged and supported.

Investments and Actions

Faculty created learning communities in 2017, which led to positive faculty experiences and widespread course improvement. Upon such promising outcomes, FLCs earned institutional support from campus leadership, which contributed to the sustained momentum FLCs enjoy today. The College describes FLCs as “interdisciplinary groups who engage in active, collaborative discussions and yearlong activities about teaching and learning.”³ Each FLC generally includes 6-to-10 faculty. Importantly, the learning goes beyond the FLCs themselves: through workshops and other gatherings at the College, the FLC faculty share their findings with other faculty and discuss ways that they could adopt the practice as well.

Past FLC topics include:

Active learning, Class Preparation Assignments (CPAs), Inclusive Teaching, and adaptive courseware.

Tri-C offers service credits and professional development stipends to support faculty participation in FLCs. For full-time faculty, Tri-C incentivizes FLCs to count for 9-to-12 service credits (out of 28 total service credits per year). For adjunct faculty, Tri-C provides a professional development stipend of \$500 for participating in a year-long FLC. Tri-C also offers faculty subsidized travel to conferences and food at on-campus training – an incentive that Tri-C leadership says should not be overlooked. After all, a fundamental component of faculty learning communities is the community-building element: creating a welcoming space for faculty to share and learn with one another.

In 2019, Tri-C facilitated a college-wide FLC focused on adaptive courseware that included participation from 14 full-time faculty and 12 staff members. This FLC operated with an open call for participation – welcoming any faculty who wanted to learn about adaptive courseware. To incentivize faculty to participate in this FLC, Tri-C used grant funding from Achieving the Dream and the Bill & Melinda Gates Foundation to give faculty release time.

Tri-C selectively leverages external partnerships to accelerate professional learning and bring in expertise. In partnership with the Association of College and University Educators (ACUE) and the Ohio College Teaching Consortium (OCTC), they further tailored professional learning to faculty needs, especially in the digital environment. For example, during the 2021-2022 academic year, ACUE’s micro-credential course, *Creating an Inclusive and Supportive Online Learning Environment*, includes the participation of 33 full-time faculty. Designed to prepare faculty to use pedagogical approaches that enhance students’ online experience, Tri-C brings in this external expertise in order to effectively support faculty teaching across modalities in addition to their work to equip faculty with the digital literacy training to supplement their digital teaching practices.

Progress Made

- Adaptive courseware now serves 52 gateway courses across 7 disciplines, including 6 economics, 11 business administration, 3 biology, 13 chemistry, 2 math, 4 physics, and 13 psychology courses.

3 Cuyahoga Community College. (2021). Faculty Learning Communities. Accessed September 2021. <https://www.tri-c.edu/faculty-central/learning-communities.html>.

- Professor Stacey Souther facilitated the scaling of adaptive courseware across the psychology department. General Psychology (Psych 1010) introduced adaptive courseware and, as a result, the pass rates increased from 69% in fall 2018 to 74% in fall 2019, and to 79% in fall 2020.
- Investments in faculty development to support teaching with digital tools helped cultivate enthusiasm and confidence around digital learning initiatives.



Student Success for Digital Learning

Tri-C improves access to digital tools through laptop distribution and digital literacy training and support.

Tri-C observed a digital divide and equity gap in the ability of students to access devices. In addition to improving access to digital tools via campus Wi-Fi and reduced-cost laptops, Tri-C also ensures that students have the knowledge and skills to use those tools effectively. The OLAT office facilitates two digital literacy enhancement opportunities — the Basic Computer Skills Course (BCSC) and My Online Readiness Experience (M.O.R.E.) — to support the effective use of digital materials and drive student outcomes.

Goal

Tri-C's OLAT promotes equity by ensuring access to all learners and instructors to devices, Wi-Fi, and baseline levels of digital literacy.

Investments and Actions

Getting technology into the hands of students by providing free and reduced-cost laptops, through its Student Laptop Program (SLP) and LEVEL UP (LEV) student laptop program, is a key initiative at Tri-C, which has been primarily funded by the Cuyahoga Community College Foundation. The goal is to increase access to digital tools and improve student success. Launched in fall 2020, the SLP offers high school graduates from specific school districts free laptops.⁴ Launched in the fall of 2021 as part of the LEVEL UP campaign, Tri-C's LEV laptop program offers high school graduates from specific school districts free laptops.⁵ SLP and LEV laptops are available to Tri-C students enrolled at least halftime (six credits) in an academic program or in a workforce certificate program.

Tri-C has extended Wi-Fi (free for students) to parking lots so that students may engage in their digital coursework from inside their cars.

4 Cuyahoga Community College. (2021). Student Laptop Program. Accessed September 2021. <https://www.tri-c.edu/student-resources/student-laptop-program.html>

5 A shared initiative with Cleveland State University (CSU), Tri-C's LEVEL UP campaign offers student support services to students who attended local high schools and are now pursuing certificates or degrees at CSU or Tri-C (<https://www.tri-c.edu/student-success/level-up/index.html>).

Having noted some fundamental digital literacy challenges among students and faculty, Tri-C leadership created a computer literacy course with a wide array of modules originally adapted from Fox Valley Community College. Launched in August 2021, the Basic Computer Skills Course is available online and optional for students and faculty. The OLAT team oversees this course as part of its mission to empower everyone – including the public – with the skills to use online tools. As a result, anyone anywhere can take this self-paced course at no cost, which is a key component of Tri-C’s “culture of accessibility” cultivated around digital learning.

In addition, Tri-C offers a “My Online Readiness Experience” (M.O.R.E.) for students so they can familiarize themselves with their learning management platform. Originally launched as a pilot in 2018, the updated version of M.O.R.E. is part of Tri-C’s permanent student enrollment process in the Fall of 2019. The M.O.R.E. is available through Blackboard Learn to students once accepted to Tri-C and takes approximately an hour to complete. The M.O.R.E. is mandatory for all students to ensure baseline digital literacy across the institution and includes three graded sections: Technology, Study Skills, and Communication Skills. Students must complete the interactive course within their first three semesters at the College. As of September 2021, over 7,500 students successfully completed the onboarding and online training of the M.O.R.E.

Progress Made

Tri-C displays a college-wide culture of student success, focused on the knowledge, skills, and tools necessary to succeed with digital learning.

- Through the Student Laptop and LEVEL UP programs, Tri-C provided free and reduced-cost laptops to hundreds of students in just over one academic year
- Tri-C also receives hundreds of comments on student preparedness and confidence from the M.O.R.E. every semester. The following quotes are from the most recent M.O.R.E. survey that began in the fall 2021 semester:

“The M.O.R.E. gave me a clear perspective on what I need to do to make my college experience worth every minute.”





“The M.O.R.E. has helped me to feel more confident in my online learning and communication skills.”

“I feel more confident using discussion boards, sending emails and uploading assignments because of the M.O.R.E.”



INSTITUTIONAL CASE STUDY

Fayetteville State University

Website 	Location 	Institution Characteristics 	Student Characteristics, Fall 2020* 
uncfsu.edu	Fayetteville, North Carolina	4-year public, HBCU	40% Age 25+ 53% Pell 75% Students of color 6,000 total undergraduate enrollment

Summary

Fayetteville State University (FSU) is a Historically Black College and University (HBCU) in North Carolina and is part of the University of North Carolina system. The previously launched digital learning initiatives include the implementation of adaptive courseware in high-enrollment courses to improve student outcomes and retention for first-year students, as well as a strategic online learning degree completion program to support its diverse student body. In support of high-quality digital learning, FSU implemented required professional learning and faculty certifications and launched a large-scale course redesign during the pandemic.

KEY LESSONS

- External policies, such as regional accreditation requirements, can play a fundamental role in helping leaders create momentum and urgency behind internal changes
- Change management requires identifying the right and sustainable incentives for departments and faculty, such as linking to tenure policy
- Course design improvements should be a collaborative process that supports faculty and accommodates students' needs
- External partners can help alleviate internal capacity restrictions and drive changes in a short timeframe

Strategic Goals of Digital Learning

FSU is a public HBCU located in Fayetteville, NC. As the second oldest public university in the state and a constituent institution of the University of North Carolina System, FSU is a regional university of choice for students from rural, military, and other diverse backgrounds, equipping graduates with “academic and practical knowledge to serve local, state, national, and global communities.” Building on the momentum from the school’s pre-COVID investment in and creation of online degree completion programs and faculty use of adaptive courseware, FSU built capacity in digital learning that was accelerated due to COVID-19 and resulted in the institution becoming more flexible in its educational delivery. As stated in the 2020-2025 strategic plan, the institution is now in a new era dominated by science, emerging technologies, and big data and is enabling the highly diverse students served at FSU to pursue pathways into these high-paying careers that currently underrepresent people of color.¹

Key digital learning goals include:

- Improving student outcomes by reducing DFW rates and increasing retention and graduation rates overall
- Ensuring the design and delivery of digital learning meets high-quality standards
- Providing students with affordable education and flexible and effective learning options
- Providing faculty with the support and resources that enable them to implement digital pedagogies in their teaching and learning

Organizational Model to Support Digital Learning

FSU’s long-standing focus is on affordability and accessibility for students, so digital learning remains a key tool in supporting the diverse student population. About half of the students who attend FSU are working professionals managing busy lives and often studying part-time. Even before the pandemic, approximately one-third of the student credit hours at FSU were taken online. The original digital learning infrastructure developed at FSU was integrated to serve on-campus students’ digital learning needs and launch adaptive learning.

In 1999, the institution launched Online Degree Completion (ODC) programs, initially offering primarily upper-division undergraduate courses online. The programs were intended to provide high-quality education that is flexible and affordable to students and to encourage degree completion. Over time, the school added introductory-level courses that enable students to complete their full degree online or select individual courses as needed. Adult learners can also take graduate programs. Recognizing a need for flexibility, departments started offering online courses and incorporating digital pedagogies outside of ODC.

The Office of Faculty Development and the Office of Online Education united under centralized leadership in 2013 and are led by a Director and Assistant Director. The Office provides training and support for all aspects of teaching and learning, instructional technology, and course design and development. The unit also supports faculty to successfully teach in all modalities (including online and hybrid) and provides them with tools and training opportunities to improve teaching and student success.

¹ Fayetteville State University. (2022). *2020-2025 Strategic Plan: New Challenges, Bold Promises*. Accessed January 3, 2022. <https://www.uncfsu.edu/strategic-plan>.

In addition, the Provost’s office contributes to driving forward pilots focused on the increased use of digital learning in introductory-level courses in service of improved student outcomes. This work, initiated by the Provost, aims to improve academic performance levels and, subsequently, was recommended by faculty to be the focus of the SACS accreditation Quality Enhancement Planning process. In order to increase student outcomes in high-enrollment gateway courses, the institution invested in a series of adaptive courseware pilots. From 2019 through 2020, this initiative took place in 15 sections of nine courses. Leadership continues to commit to investing in and scaling adaptive courseware within the institution.

Finally, as a member of the University of North Carolina System, FSU has access to services and support offered by the Office of Digital Learning, including events and activities related to professional learning and support with procurement to harness the pricing power of the system.

Currently, there is not one integrated organization that exercises oversight authority over all digital learning activities at FSU. However, during the course of the pandemic, the reach of these various efforts across the institution ensured that a greater number of instructors had access to digital tools and familiarity with digital pedagogy. Moving forward, FSU is seeking to ensure that these efforts are coordinated, scaled, and embedded across the organization and that they continue to do so in a way that does not incur greater costs for students.

KEY DIGITAL LEARNING INITIATIVES	PROGRESS MADE
<ul style="list-style-type: none">• Faculty certification for high-quality digital learning.• Course redesign centered on student success, inclusive of adaptive courseware implementation as part of a quality enhancement initiative.• Student success initiatives — such as the use of student support technologies (e.g., Upswing) and the peer coaching program.	<ul style="list-style-type: none">• Faculty complete certification before teaching their first online/hybrid courses and speak very highly of the certification program.• Over 100 faculty received assistance in redesigning their course to make them more accessible to students, all within a four-month time frame during the pandemic.• The institution observed a change of culture in that department heads and faculty members now consider the quality of digital learning as a top priority and are willing to continuously improve.• From 2019 through 2020, over 500 students participated in a course that used adaptive courseware and these pilots resulted in moderately improved DFW rates and positive student satisfaction.• Students are now supported by a technology platform that connects them to a range of flexible tutoring and student support options.• FSU’s programs consistently rank among the most affordable in the nation.²

2 Fayetteville State University. (2022). Why FSU. Accessed January 3, 2022. <https://www.uncfsu.edu/fsu-admissions/why-fsu>.



Professional Learning

FSU uses faculty certification to ensure high-quality online/hybrid courses.

To ensure course design and delivery quality, FSU's leadership requires faculty to go through a certification program before teaching their first online/hybrid course at FSU. During the six-week program, faculty members develop their course so that it meets all Quality Matters (QM) standards³ before getting the certification. The Office of Faculty Development and Online Education facilitates the certification program and supports faculty through this certification process. QM is also used throughout the UNC system.

Goals

- Ensure the high quality of FSU's online and hybrid courses
- Ensure all faculty are trained before they teach their first online/hybrid courses and remain supported in the use of digital pedagogies and tools
- Form alliance with department heads to ensure that all instructors participate and continuously reflect on and improve courses in support of student learning

Investments and Actions

FSU started offering online course in 1999 and hybrid courses in 2011 to provide flexible learning options to its student population. In 2011, as part of their SACS's accreditation, FSU implemented a requirement for all faculty who want to teach online or hybrid courses at FSU to go through an internal certification to prepare them for success in these environments. Using the Quality Matters program as the foundation for course design and redesign, and other relevant industry-standard best practices for the delivery of high-quality hybrid/online courses. For on-campus courses, FSU also launched the integration and implementation of adaptive courseware under the same accreditation quality enhancement initiative.

The Provost created the Office of Online Education in 2010 and appointed a faculty member, Dr. Grohe, to lead it. Due to institution-wide budget reductions, the Office ran on a limited budget, not having its own allocated budget from the institution until the third year it was in place. Over time, the institution was able to fund the department from the university budget allocation and FSU hired instructional designers and administrative support staff to support the initiatives on providing professional learning to faculty. Faculty do not receive stipends for going through the certification program; the program is a requirement.

The program training is conducted in-house, mainly by the Office's staff, but sometimes external experts and resources are used. For example, FSU elected to use Quality Matters as their rubric for course quality, and those materials are used with a subscription fee.

3 QM Higher Education Rubric, Sixth Edition

FSU expected the rollout of the faculty certification to last for a few years. When the training requirement was first instantiated in 2011, the Provost, administrators, and department heads all agreed on its importance. Faculty governance wanted to ensure that only faculty members who needed the training were included. The institution thus offered an option to “test out” of the program if the faculty member had a recent online course design training and if they demonstrated competency in the then LMS.

FSU increased faculty participation again from 2014 to 2015 when FSU adopted Canvas as their new LMS. As the platform was new to many faculty members, the Provost and Director of Faculty Development and Online Education promoted the certification training as an opportunity to learn how to use Canvas and ensure that courses were high quality. The Provost encouraged participation by making the certification a “plus” in the faculty’s tenure portfolio.

The certification program is now institutionalized. When a department hires a new faculty member, they are required to complete the training before teaching an online/hybrid course. There are no one-offs when the department hiring process is finalized near the start of a new semester, so the faculty member often has limited time for the training before the first class. Therefore, it is a continuous effort for the Provost and Dr. Grohe’s office to ensure the certification program is on top of the priority list of department heads and faculty members. Dr. Grohe’s office uses all possible opportunities to continue to message the importance of the training. For example, when FSU first joined The National Council for State Authorization Reciprocity Agreements (NC-SARA)⁴, leadership used this opportunity to emphasize that the high quality of online courses is a top priority of many key external stakeholders.

In summary, FSU successfully rolled out and institutionalized the faculty training and certification among faculty members and departments using several strategies to incentivize adoption, including cooperation across senior academic leadership, tenure review policy, and external accreditation policies and stakeholders.

Progress Made

Currently, FSU’s leadership achieved a certification rate of close to 100% among all faculty who teach online or hybrid. Not only did this create a positive impact on online and hybrid courses, but since most faculty teach across modalities, it also ensures that many faculty are trained in the use of digital pedagogies and tools.

FSU sees significant buy-in and appreciation from faculty members. Faculty who completed the training rate the program very highly: According to Dr. Grohe’s evaluation of 2020-2021 results, 91% of 70 respondents among faculty participants graded the certification program as excellent (50, 71%) or very good (14, 20%).

4 The National Council for State Authorization Reciprocity Agreements (NC-SARA) is a nonprofit organization that helps expand students’ access to educational opportunities and ensure more efficient, consistent, and effective regulation of distance education programs. <https://nc-sara.org/about-nc-sara>.



Course Design and Delivery

FSU regularly uses the student voice and data to inform and prioritize course redesign, both through adaptive learning experiments and their approach to prioritizing courses for redesign during the pandemic.

FSU focuses on the use of course-level data to inform course redesign. In order to increase student outcomes in high-enrollment gateway courses, the institution invested in a series of adaptive courseware pilots. Between 2019 and 2020, this initiative took place in 15 sections of nine courses. Courses were selected and prioritized based on higher DFW rates and where there was evidence that student learning outcomes needed addressing and improvement.

Building on this data-driven approach, in the middle of the pandemic, using student surveys and internal data, FSU's leadership identified 107 courses that needed improvement. With the pandemic continuing to loom, FSU combined internal staff with statewide resources (QM experts within the broader UNC system) to help faculty redesign 64 courses within four months.

Among the 107 courses originally identified, 64 faculty completed all requirements for their respective courses during this phase of the project.

Goals

- Ensure courses accommodate students' needs and accessibility from the students' perspectives
- Provide faculty with support where they need the most help
- Incorporate digital tools that will improve student outcomes

Investments and Actions

FSU's leadership invests in making sure students get access to high-quality learning and courses that accommodate students' needs regardless of modality. Top priority for leadership, especially during COVID-19, was that students' voices were heard and courses were redesigned if they could not meet students' demands.

The Provost launched a survey asking all students who took online classes in spring 2020 to list courses that they found difficult to take online. The 107 faculty who taught the identified 107 online courses were then invited and offered financial incentives to participate in a redesign process.

At the time, the Director of Faculty Development and Online Education office had limited capacity to help redesign 107 courses. Thus, the team turned to the University of North Carolina System's Quality Matters Council for help. Through the state work on digital learning, the Council asked Quality Matters Certified Master and Peer Reviewers to

participate in the Course Redesign initiative. With \$500 per course offered as financial incentive, 47 reviewers from other institutions served as expert reviewers.

The outside experts paired off with FSU faculty based on subject matter whenever possible. They reviewed each course against the QM Higher Education Rubric and made suggestions for modifications or enhancements to improve the quality of the courses. As a result of the review, one area among others where many faculty members needed help was “accessibility and usability.”

As a result, the Office of Faculty Development and Online Education is planning to collaborate with the Counseling and Personal Development Center at FSU, to provide a series of accessible programs to help faculty understand the importance of accessible online materials to students with learning differences. Some specific areas of focus will ensure that online materials are accessible to all (by adding alt text to images, adding transcripts to videos, etc.).

Progress Made

FSU helped 64 faculty redesign their courses in four months to meet QM standards.



Student Success for Digital Learning

FSU’s leadership commits to providing students with comprehensive support through a combination of techniques, including notable investments in technology platforms and peer coaching.

FSU’s leadership commits to the success of all its students, half of which are adult learners who demand flexible access to learning and support resources. Use of technology, iterations in coaching programs, and commitment to affordability all contribute to its success in institutionalizing the support infrastructure.

Goal

The goal is to provide flexible, effective, and affordable resources to students to ensure they have the support to succeed, regardless of their learning modality.

Investments and Actions

FSU started an initiative called “Technology Sandbox” in 2019 to pilot new technologies and assess if faculty and students find them useful. Initial tools in the Sandbox included VoiceThread, GoReact, and Top Hat, all which attempt to increase student engagement and interaction in online courses. In addition, a user-friendly video recording studio was built, utilizing One Button Studio technology and a Revolution Lightboard that allows faculty to record high-quality videos that are easily uploaded in online courses. Based on the performance in the Sandbox, support tools and services are then expanded. Based on ongoing response to student needs, FSU adopted a campus-wide integrated student

support platform, Upswing, to connect students to flexible learning and tutoring options. This platform is integrated with the LMS and other technology systems to enable text message alerts to students to remind them of the upcoming campus deadlines (e.g., financial aid alerts) and course-level updates (e.g., quizzes and tests). Students can also use Upswing to schedule a tutoring session and have a web conference with the tutor. The platform is also used as a resource repository for a broad range of supports including writing tips, mental health and wellbeing, etc.

FSU also invested in different coaching options. In its initial phase, support staff served as informal coaches, making calls to students to ask how they are doing and to encourage them to continue to persevere in the face of challenges. One piece of the feedback was that students would really benefit from having someone who knew about the courses and academic content. Therefore, the leadership implemented a peer coaching program. They hired experienced students in a given course as trained, peer coaches. The leadership especially targeted courses with high DFW rates for peer coaching. The peer coaches encourage students to complete assignments and provide mental health support as well.





Progress Made

FSU provided virtual student success peer coaching to 1,108 students during the summer and fall semesters of 2020. Students were very receptive to coaching. In addition, faculty openly welcomed utilizing the peer coaches within their classes. Seventy-three percent of students received a grade of A, B, or C in the courses. Sixty-five percent of the students contacted engaged via text messages (nudging). Of the students who responded to post surveys, 81% agreed that their virtual peer coach contributed to their success in the course. In addition, faculty who participated in the virtual peer coaching project had an average 5% decrease in D's and F's in their courses in fall 2020 as compared to the same course taught during spring 2020.



INSTITUTIONAL CASE STUDY

Georgia State University (Georgia State)

Website 	Location 	Institution Characteristics 	Student Characteristics, Fall 2020* 
gsu.edu	Atlanta, Georgia	4-year public	16% Age 25+ 48% Pell 75% Students of color 29,000 total undergraduate enrollment

Summary

Georgia State University is a public research university in Atlanta, Georgia that has intentionally invested in digital learning and intentional instructional design as mechanisms to improve the quality of learning and to enhance student outcomes.

KEY LESSONS

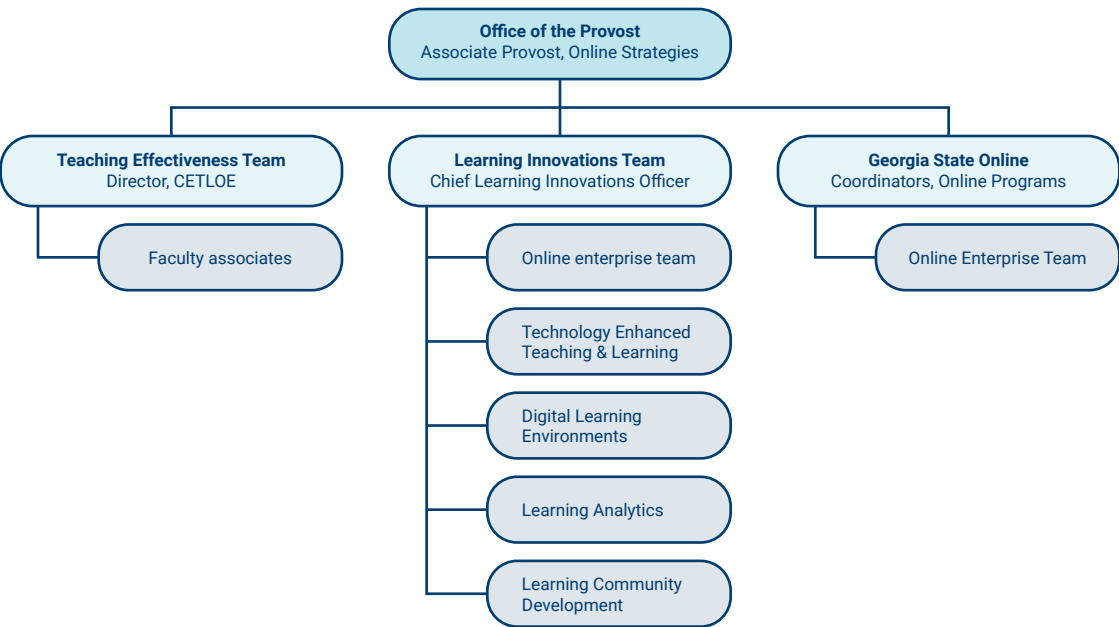
- Centralized organizational supports and infrastructure ensure that digital learning can equitably scale across courses, departments, and the institution
- Initiatives need to be flexible and faculty-informed in order to achieve successful collaboration with multiple stakeholders throughout the institution
- Investments in professional learning should be aligned with emerging and priority needs that are raised by faculty and students
- Development of data dashboards and tools in collaboration with the intended users ensures that they will produce actionable analytics and will be used with fidelity

Strategic Goals of Digital Learning

Founded in 1913, Georgia State University is a public research university in Atlanta, Georgia serving nearly 45,000 undergraduate students across six campuses, including students who take courses exclusively online.¹ Among the most diverse colleges and universities in the United States, Georgia State is committed to student success, annually graduating more African American students than any other public or nonprofit higher-education institution in the nation, and the most Asian and Latinx students of the institutions in Georgia.² Building upon this momentum in achieving equitable outcomes, Georgia State is increasingly offering courses in various modalities, focused on finding “the balance between technology and human interaction in instruction so that education and student success outcomes are greatly enhanced.”³ Georgia State’s initiatives in course design and delivery, evaluation and analytics, and student success and support illustrate an institutional commitment to expanding digital learning tools, resources, and support in service of improved student outcomes.

Organizational Model to Support Digital Learning

Georgia State has invested in centralized organizational infrastructure to support digital learning and built sustainable funding sources that support these efforts. The Center for Excellence in Teaching, Learning and Online Education (CETLOE) is the office that oversees campus-wide digital learning activities under the leadership of Dr. Kim Siegenthaler, Associate Provost for Online Strategies. It is currently comprised of the Learning Innovations team, the Teaching Effectiveness team, and the Georgia State Online team.



1 Georgia State University. (2021). *Perimeter College: Our Campuses*. Accessed January 3, 2022. <https://perimeter.gsu.edu/about-perimeter-college/our-campuses/>.

2 Georgia State University. (2021). *About Georgia State University*. Accessed January 3, 2022. <https://www.gsu.edu/about/>.

3 Georgia State University. (2021). *Preamble: Goal 1*. Accessed January 3, 2022. <https://strategic.gsu.edu/preamble-2/goal-1/>.

The CETLOE is funded through a variety of channels to support the development of digital learning initiatives:

- In recent years, the university budget allocated to the Office of the Provost has been invested significantly into growing the CETLOE by 35 full-time positions that nearly all focus on improving faculty experience with digital learning tools, expanding online courses, and building capacity to support the success of these programs
- The second funding source comes from the university technology fees and state-appropriated budget, which is co-managed by the CETLOE and the central IT organization. The majority of digital learning initiatives are funded by Student Technology Fees, a required fee for Georgia State students that is determined by the campus, term, and credit hours in which the student is enrolled
- The third funding stream comes from grant-funded opportunities, such as Georgia State’s participation in APLU’s Accelerating the Adoption of Adaptive Courseware grant, which sought to increase the effective adoption of adaptive learning technologies into several key introductory courses in order to improve student learning and course outcomes

KEY DIGITAL LEARNING INITIATIVES	PROGRESS MADE
<ul style="list-style-type: none">• Intentional, centralized leadership focused on using digital learning to close equity gaps and improve student success.• Course design that focuses on inclusive and equitable teaching is built on collaborative, faculty-driven initiatives, and supported with programming to ensure holistic course design and high-quality content.• Professional learning and faculty support that is responsive to emerging instructional challenges and closing equity gaps.• Proactive development of data dashboards and the use of analytics at the institutional and course levels to inform course design/redesign, student supports, and efforts to close equity gaps.	<ul style="list-style-type: none">• Investments in centralized infrastructure, funded by central budget allocation and ongoing fees, ensure sustained momentum.• Faculty’s collaborative course design initiative not only developed examples of shared course templates and libraries of high-quality course resources, but also built a strong foundation of a faculty community that promotes CETLOE services and ensures the scaling of services.• More faculty are seeking support from CETLOE as a result of their evaluations and using the DIY Course Design checklist to find best ways to implement the resulting recommendations.• One learning improvement intervention strategically used the LMS’s nudge tool, increasing student participation in weekly assignments, leading to a 65 percent reduction in DFW rates in that course.



Leadership, Budget, and Policy

Georgia State has invested in sustained leadership of digital learning innovation that focuses on closing equity gaps.

At Georgia State, there has been a centralized investment in resources that support institutional change and progress toward equitable student outcomes and the role digital learning can play to accelerate those outcomes.

Goal

Aligned with its strategic goal to become a national model for undergraduate education by demonstrating that students from all backgrounds can achieve academic and career success at high rates, Georgia State has invested in digital learning personnel and infrastructure to drive student success.

Investments and Actions

In order to ensure that there is sufficient support and momentum for digital learning, Georgia State has developed a robust organizational structure to support the 54,000 undergraduate and graduate students and more than 1,400 faculty at the institution. Reporting to the Office of the Provost, the Associate Provost for Online Strategies leads CETLOE and the three units that report to it: the Learning Innovations Team, the Teaching Effectiveness Team, and the Georgia State Online team.

The Learning Innovations Team is responsible for working with faculty to develop courses for the online environment, improving the learning technology ecosystem, supporting faculty in their use of digital tools, and analyzing the effectiveness of programs through learning analytics and research. With an emphasis on student support, the Learning Innovations Team also develops student-facing learning communities dedicated to improving digital literacy, especially among those students traditionally less represented in technology fields.

The Teaching Effectiveness Team is responsible for faculty programs that model and utilize the best practices in pedagogy. The Teaching Effectiveness Team works across all modalities, course levels, departments, schools, and colleges to support the entire instructional workforce, from first-time teaching assistants to full-time professors. Teaching Effectiveness partners with Learning Innovations to promote a teaching culture grounded in inclusive principles to support Georgia State learners from all backgrounds.

The Georgia State Online Team is responsible for the development of Georgia State's online enterprise, including marketing and the identification of high-potential online programs. This team collaborates with the Learning Innovations team on the logistics of implementing and developing the online programs identified.

- The pandemic required a rapid shift of both faculty and students to the online learning environment, allowing the institution to use student LMS log-on data as a reliable means of tracking student engagement. As most courses have returned to an in-person environment, levels of LMS usage have remained high, and the Student Activity Dashboard has continued to serve as an excellent source of actionable data for our advisement team.
- CETLOE works collaboratively with other sectors of the institution who are also aiming to improve student success outcomes. For instance, they often partner with the Senior Vice President of Student Success and their team to develop, implement, and evaluate student engagement programs, such as the Student Activity Dashboard, a tool used by advisors to measure student participation and access to learning materials in their online courses. Additional collaborative projects include the development of student guides for learning online and the development of a unified course template for the Freshman Learning Community anchor course, GSU 1010/PCO 1020: New Student Orientation.
- These investments are sustained and funded by a centralized budget allocation and student fees that support ongoing reinvestment in quality digital learning.

Progress Made

These investments have enabled faculty and students across the institution to be supported with digital learning. According to Julian Allen, Ph.D., “the Initial analysis of student performance in the redesigned online sections of GSU 1010 / PCO 1020 look promising.” This pair of New Student Orientation courses anchor the Freshman Learning Community program and the courses were redesigned in a collaborative partnership between Student Success and CETLOE. The newly designed template was made available to all instructors of the course. In addition, Dr. Allen notes that “with the additional staffing resources, Georgia State was able to rapidly expand our Mastering Online Teaching program, that usually serves 20-30 instructors per semester, and we were able to facilitate the training of over 3,000 instructors at the beginning of the pandemic.”



Course Design and Delivery

Georgia State faculty and CETLOE partners developed libraries of high-quality resources that faculty could leverage in their course design/redesign processes.

The Learning Design team at CETLOE collaborated with faculty to identify their course design needs and developed a set of high-quality resources that could be leveraged by all faculty. This partnership utilized the instructional design best practices along with the field expertise from faculty to develop high-quality resources. Georgia State's collaborative, inclusive approach to leadership resulted in a library of high-quality resources that all faculty are able to access and implement into their courses as they see fit.

Goal

Georgia State seeks to develop high-quality, accessible course materials to be leveraged by faculty teaching the same courses in different sections or at different campuses.

Investments and Actions

The Learning Design team and other supports at CETLOE worked closely with faculty to provide course design support. Core to this initiative was the partnership with the faculty community involved in the initiative and the steps CETLOE took to ensure they were recognized as academic leads and co-creators in this process. Due to the additional responsibility of faculty in the spring and fall of 2020, the team at CETLOE extended the timeline of the initiative and worked to support faculty effectively.

Progress Made

Faculty were more engaged in the course design process when they were involved in the course selection process and were collaborators in the program, compared to when they were assigned responsibilities. All courses were completed in the spring of 2021 by 23 faculty teams comprised of more than 120 faculty and faculty leadership co-creating with the CETLOE team. As a result of the collaborative approach CETLOE undertook, this initiative creates a strong foundation of a faculty community that can promote CETLOE services and support in the scaling of future initiatives. This endeavor provided digital libraries of high-quality course materials that faculty from different campuses can review and consider in their course design/redesign processes.



Professional Learning

Investments in professional learning are aligned with emerging and priority needs that are raised by faculty and students, such as recent accessibility initiatives.

During the pandemic, the importance of course accessibility was elevated as critical to enabling student success. In response to increased challenges, Georgia State's CETLOE included the addition of an accessibility specialist that provides training and course-specific modification for designers and faculty to ensure that their course is accessible. Additional resources are available so that faculty can self-evaluate their own course and then engage with the designers and accessibility specialist to improve outcomes. These resources include a series of design suggestion checklists: a comprehensive checklist, a shorter DIY checklist, a diversity readiness checklist, and a career readiness checklist.

Goal

Georgia State's CETLOE equips faculty with adequate resources in the course design process to ensure all students are receiving the necessary supports to access the content in the course.

Investments and Actions

Georgia State's CETLOE invested in the addition of a full-time accessibility specialist dedicated to ensuring courses have the accessibility supports in place to promote student engagement. In addition to the specialist services, Georgia State has also developed course design checklists at varying degrees of comprehensiveness and focused on different themes (DIY Course Design, Comprehensive Design Suggestions, Diversity Readiness Suggestions, and Career Readiness Suggestions). All checklist materials are framed as suggestions to open the door for faculty to seek out support from the CETLOE in adjusting their course design based on the outcomes. Additional technology accessibility tools are also provided, including Blackboard Ally, Text to Speech, and Closed Captioning.

In collaboration with the Accessibility Specialist, CETLOE launched Design for All, a four-week course focusing on the adoption of Universal Design for Learning (UDL) standards. They also launched monthly technology webinars with an emphasis on accessibility — (iCollege: Accessibility Features and iCollege: Improving Accessibility with Ally) — and individual workshops for faculty. Looking to the future, CETLOE is iterating on their Design for All course to ensure alignment with UDL, providing additional training on Web Content Accessibility Guidelines (WCAG) compliance, and developing accessibility review processes.

Progress Made

As a result of the checklist resources, especially the DIY Course Design checklist, more faculty are engaging with CETLOE to find the best way to implement the recommendations resulting from the self-evaluations.



Evaluation and Analytics

Georgia State uses the proactive development of data dashboards to inform course design/redesign, target student supports, and reduce equity gaps.

The Learning Analytics team at the CETLOE develops data dashboards and tools in collaboration with the intended users and ensures that they will produce actionable analytics and be used with fidelity.

Goal

By providing actionable data reports to key stakeholders involved with ensuring positive student outcomes, Georgia State seeks to identify — and ultimately close — equity gaps.

Investments and Actions

In partnership with the instructional designers, the Learning Analytics team has tracked assessment outcomes for the same course taught in different sections in order to

establish consistency for student outcomes. Instructional designers have access to course-level student progress data, which allows them to better support the faculty in their design and redesign processes. The Learning Analytics team has also partnered with the Student Success Office and advisors to develop a tool for faculty to see student engagement with a course and make an informed decision on conducting outreach or “nudging” a student.

Progress Made

In the summer of 2020, CETLOE developed the tool to monitor student learning in courses at the newly formed Online Bachelor of Business Administration program. The Student Progress Dashboards and Reports evaluate data from the institutions’ Learning Management System (LMS) and Student Information System (SIS) to share real-time data on student performance throughout the semester. The dashboard and reports are being used by multiple programs at Georgia State, allowing faculty and advisors to monitor student progress and provide targeted academic support. Instructional designers at CETLOE and technologists are also evaluating the reports from this initiative to inform course design and redesign.





When all students transitioned to online learning in March 2020, CETLOE and the Student Success Office scaled a separate initiative, the Student Activity Dashboards and Reports, for all campuses within two weeks. The dashboards tracked student activity within their courses, contact information, and relevant information to support students. Within the first two weeks of implementation, the dashboard and reports enabled faculty and advisors to identify and conduct outreach to over 8,000 students. As students shift back to in-person learning, these tools continue to be a valuable resource in supporting students and their use of digital tools.



INSTITUTIONAL CASE STUDY

Ivy Tech Community College



Website 	Location 	Institution Characteristics 	Student Characteristics, Fall 2020* 
ivytech.edu	Indiana	2-year public	38% Age 25+ 40% Pell 24% Students of color 64,000 total undergraduate enrollment

Summary

Through the creation of a centralized unit, IvyOnline, which manages and supports the development and delivery of all online courses, Ivy Tech is focused on improving course quality, course availability, and student outcomes. Simultaneously, Ivy Tech is seeking to operate more efficiently as an institution through the centralization of digital learning resources including instructional design, technology support, professional learning, and analytics to support the campus sites. The current student body population is 72% part-time, 38% adult learners, and 37% Pell grant eligible. With 81% of students at Ivy Tech taking one or more courses online, IvyOnline plays a role in impacting the experience of all students and faculty.

KEY LESSONS

- Centralized leadership, educational technology, and instructional design services enable scaled implementation of high-quality digital learning initiatives across multiple campuses
- Centrally managed course design and delivery ensure course availability, consistency, and analytics
- Creative use of external Cares Act funding enabled up-front investment in inclusive tuition model
- Analytics and research related to student outcomes informs proactive student support initiatives

Strategic Goals of Digital Learning

Founded in 1963 as Indiana's community college system, Ivy Tech is Indiana's largest public postsecondary institution serving nearly 73,000 undergraduate students across 23 physical campus locations and through IvyOnline.¹ To improve equitable outcomes among its students, Ivy Tech outlines the following core values as drivers of their strategic initiatives: student-centered, outcome-driven, inclusive, collaborative, trustworthy, and transparent.²

Combining these values with technology, one of Ivy Tech's strategies is to "provide students access to the technology they need to be successful in class, while ensuring they know how to use technology."³ One way they measure progress in this initiative is by monitoring fall-to-fall and fall-to-spring retention rates every year. Also pursuing equity as part of their strategic plan, Ivy Tech seeks to "define systemic inequities for students to then create policies, practices, and protocols with respect to diversity, equity, and belonging."⁴ With the development of IvyOnline, Ivy Tech ensures that all current and prospective students can access high-quality online courses. The platform also monitors student outcomes across courses in order to identify challenges, inequities, and implement ongoing improvements. In addition, Ivy Tech situates student success as a shared responsibility among students, faculty, staff, and other college community members.⁵ In turn, Ivy Tech's digital learning initiatives in leadership, budget, and policy, course design and delivery, and student success and support work in parallel to improve equity and student outcomes across the system.

Organizational Model to Support Digital Learning

Senior Vice President and Provost of Ivy Tech oversee IvyOnline and all Ivy Tech campuses. Currently centralized, Ivy Tech's instructional design, learning analytics, technology infrastructure, and professional learning services report to the Office of the Provost. Student success and support services are decentralized and provided locally at individual campuses.

Funding for digital learning comes from a central budget allocation, a technology fee, and a course-level fee based on enrollment model. For online courses, fees are distributed across the individual campuses and IvyOnline in a ratio of 55/45. In addition, recent CARES Act funding sponsored the initial development of an inclusive tuition model that ensures student access to course materials on day one of the semester, and tuition includes the cost of materials.

1 Ivy Tech Community College. (2022). *About Us*. Accessed January 3, 2022. <https://www.ivytech.edu/aboutus.html>.

2 Ivy Tech Community College. (2022). *Strategic Plan, Core Values*. Accessed January 3, 2022. <https://www.ivytech.edu/34454.html>.

3 Ibid., *Goal 1*.

4 Ibid., *Goal 8*.

5 Ibid., *Intro*.

KEY DIGITAL LEARNING INITIATIVES

- Centralized leadership and organizational processes improve the quality of instruction and the student experience.
- Course design focuses on utilizing best practices from Quality Matters and Universal Design for Learning to create positive student experiences.
- Instructors — including adjunct instructors — receive a review and feedback annually based on term-by-term reviews regarding their teaching, which sets the tone for ongoing improvement and focus on student outcomes.
- Analytics are used to design and implement improved student supports.

PROGRESS MADE

- Centralized leadership, educational technology, and instructional design services enable Ivy Tech to focus on the scaled implementation of digital learning initiatives, especially across multiple campuses.
- The overall success rate (defined as A, B, or C) across all online courses increased by 3.2% from the academic year prior to IvyOnline's implementation (18-19) to the most recent academic year (20-21). This increase results from course redesign, faculty engagement and leadership, course audits, annual evaluations, and ongoing professional development.
- An approach to using data every term to analyze student outcomes resulted in a campus-wide initiative focused on targeted and effective student supports (e.g., inclusive tuition model that ensures students don't incur additional fees related to classroom materials, targeted advising initiatives to improve student persistence and course completion, etc.).



Leadership, Budget, and Policy

Centralized leadership and organizational processes are used to improve the quality of instruction and student experience.

As the largest community college in Indiana with multiple campuses providing online courses, course availability and experiences were inconsistent across campuses, negatively impacting student progression and outcomes. Outcomes in online courses lagged behind the outcomes in face-to-face courses. To address these challenges, Ivy Tech created IvyOnline as a centralized entity that manages scheduling to ensure the availability of courses, and single-version courses have been created to offer consistent learning experiences for all online courses. IvyOnline also provides centralized hiring and consistent course design support. A revenue-sharing policy funds these online courses through a digital learning fee and ensures that campuses only pay for the services that their students use.

Goal

The goal of these efforts is to ensure the consistent availability and high quality of courses across all campuses, improve student outcomes in online courses, and ensure quick identification of the problem (via analytics and term reviews) and assessment of the problem (via professional learning, course redesign, and/or new policies and practices) for courses with equity gaps or challenges to overall student outcomes.

Investments and Actions

Core to the development of IvyOnline was the development of a revenue-sharing model that promoted collaboration between campuses, especially for online course design. With funding allocated, IvyOnline invested in and supported a team of instructional designers to create single-version courses for high-priority courses (e.g., high enrollment, multiple sections, high fail rates). IvyOnline also enlisted a course mentor/developer to work with instructional designers to build the single-version courses. A faculty lead takes responsibility for ensuring the quality of delivery across the various sections. A centralized approach to course design enables the use of centralized analytics and learning data to improve courses. This work gets its support from centralized professional development and engaged faculty. Ivy Tech implements communities of practice, creates spaces for productive evaluations, and provides one-on-one meetings as well as larger-group professional development. The institution provides these services to all faculty members, including adjunct faculty.

Progress Made

The centralized leadership model allows faculty from different campuses and IvyOnline increased opportunities to work together in the course design process. Prior to the centralization efforts, online courses were averaging at 60% capacity and a 12% achievement gap. Currently, the statewide course library offers 550 online courses and more than 80% of the student body takes one or more of these online classes. Specifically, the average online course capacity hit 80% for fall 2021 compared to 59% for fall 2018.



Course Design and Delivery

Course design is focused on providing resources, parameters, and support to instructors in order to promote consistent and high-quality courses.

Ivy Tech emphasizes a single-version course, supported by a centralized course creation process and the instructional design team. Collaboration between the instructional design team and curriculum committees led to the development of centralized versions of courses with pre-selected textbooks for use by everyone on the faculty curriculum committee.

Goal

The shift towards single-version courses ensures that students have a consistently high-quality experience regardless of their location throughout Ivy Tech and enables the institution to focus on improving student outcomes.

Investments and Actions

Course design and redesign are focused on the implementation of single-version courses and are facilitated by campus-wide access to content from IvyOnline courses. Ivy Tech proactively develops systems to share IvyOnline course materials in the format of “course packages” that are accessible by all faculty via Canvas. Faculty can decide to leverage the entire package or only the parts applicable to their course, thereby sharing key resources and best practices in course design campus-wide. In addition, pre-dating the creation of IvyOnline, the faculty curriculum committee implemented a policy for faculty to provide an option of up to five instructional material choices for students, as well as an OER resource. This policy further creates consistency of materials across courses.

Every term, the IvyOnline leadership team (AVP for Distance Learning & Educational Technology), the Executive Director for Instructional Design Services, the Executive Director for Educational Technology & Professional Development, and the six Faculty Leads (responsible for course delivery in their assigned school) review course-level data to assess the efficacy of the courses and identify any areas in need of improvement. This data is also used as an input into annual reviews of faculty, including adjunct faculty. To support instructors, Ivy Tech continues to invest in a team of faculty experts who can provide mentoring and support the ongoing development of instructors in online courses. The supports provided focus heavily on fostering high-quality instruction and creating engaging courses that incorporate active learning.

Progress Made

The catalog of IvyOnline courses now serves as a key tool for centralizing course design, both for instructors teaching online and face-to-face. Courses redesigned using the IvyOnline resources experienced positive outcomes as a result, including a reduction in withdrawal rates. As one example, ENGL 111 had a withdrawal rate of 18% prior to IvyOnline (spring 2019), which dropped to 9% this past spring (spring 2021).



Student Success for Digital Learning

Ivy Tech proactively uses course analytics to design and implement improved student supports.

Ivy Tech proactively collects and analyzes data to identify opportunities to provide better student support services and improve student outcomes.

Goal

Ivy Tech seeks to identify where all students — or disaggregated by race, income, or other factors — are facing challenges in courses and progression, and then identify and pilot interventions through student supports, policies, and practices.

Investments and Actions

Ivy Tech faced a challenge in that not all students could afford course materials, and many poverty-affected students would not purchase course materials, making succeeding in the course challenging. In 2021, the institution built the cost of textbooks and classroom materials into tuition, resulting in no additional cost to students. How was this accomplished? Using historical purchasing and enrollment data, the institution collaborated with the bookstore provider to negotiate an agreed-upon price for course materials. Ivy Tech then leveraged the CARES Act funding to implement an inclusive tuition model whereby the cost of course materials is included as part of student tuition. This policy enables students to incur no additional charges for materials, and digital materials are ready for students on day one, reducing equity gaps in student access to materials.

Ivy Tech works to disaggregate data regarding student success measures and implement interventions. For example, Ivy Tech discovered that ‘late’ enrollment strongly coincided with the student’s success in the course, specifically the association between late enrollment and higher DFWI rates. In addition, Ivy Tech saw that the placement tool in use was not performing well, and as a result, Ivy Tech experimented with implementing a new tool, Knowledge Assessment. According to the pilot implementation, those students who used the Knowledge Assessment were more likely to persist and pass the course. Lastly, Ivy Tech discovered that certain student populations succeeded at lower rates than other populations. In response, Ivy Tech invested in targeted coaching and support models. To enable these efforts to move quickly and with focused expertise, Ivy Tech partnered with Inside Track to bring in external capacity.

Progress Made

In the fall of 2021, all Ivy Tech students will not incur additional costs related to textbooks or classroom materials. As a result, financial barriers to accessing course materials are no longer a variable to student success. All students can access required classroom materials and digital tools on day one of classes, which allows them to get familiar with the content and tools immediately.

As a result of their course enrollment research, Ivy Tech found indicators related to ‘late’ enrollment and course content that influenced students’ success outcomes and are looking at changing policies accordingly.



INSTITUTIONAL CASE STUDY

The Tennessee Board of Regents

Website	Location	Institution Characteristics	Student Characteristics, Fall 2020*
tbr.edu	Tennessee	2-year state system	28% Age 25+ 41% Pell 27% Students of color 102,000 total undergraduate enrollment

Summary

The Tennessee Board of Regents (TBR) supports the implementation of digital learning initiatives across their system by centrally coordinating and distributing resources — informational and financial — to individual colleges. Leveraging open educational resources (OER) as a key driver of cost savings across the system, TBR also provides professional learning opportunities focused on high-impact practices (HIPs) and uses data analytics to align colleges with systemwide equity goals.

KEY LESSONS

- Grant funding is a strategic lever for ensuring sustainable momentum across new initiatives focused on digital learning and student success, while also building capacity
- Centralizing professional learning and leveraging faculty leaders to build community helps scale instructional practices across systems and ensures more equitable access to services
- Data analytics plays a significant role in creating visibility towards strategic goals and enabling experimentation and change

Strategic Goals of Digital Learning

TBR — the centralized entity that supports an open-access community and technical college system — is committed to helping students address and confront any barriers to completing their programs.¹ Consisting of 40 institutions with a combined annual enrollment of nearly 102,000 students, TBR is the largest system of public higher education in Tennessee. As such, TBR leads faculty and individual institutions in their efforts to identify and address barriers and support students in achieving their academic goals. As a set of individual institutions and a collaborating system of education, TBR relies on three main policy pillars:

- **open access**
- **completion**
- **community and workforce development**

As outlined in the 2021-2025 strategic plan, TBR is embracing innovations that improve the ways it educates, trains, and serves students. TBR's growing utilization of digital learning tools is largely focused on equity and addressing barriers to student success. By supporting the implementation of OER and HIPs, for example, TBR leverages evidence-based strategies to promote equitable student outcomes. TBR's approach to leadership, student success using OER, and evaluation and analytics has allowed TBR to establish a systemwide commitment to student success and to build capacity to sustain the momentum in the future.

Organizational Model to Support Digital Learning

TBR focuses on systemwide change management and centralized initiatives, such as OER adoption, professional learning, and enterprise technology investments. Reporting to the Regents of the TBR System, the Chancellor's Office is responsible for guiding the system in accordance with the board's direction and for managing the system office in a manner consistent with TBR's mission and vision.

The chancellor's office is comprised of a senior leadership team that works across and with individual campuses and internal leadership. The Chancellor's Office oversees functions such as business and finance (including IT), communications, policy and strategy, student success, and the Center for Innovation in Teaching and Learning (CITL). As a functional unit of TBR's system office, TN eCampus is the office charged with overseeing the system's online education offerings. TN eCampus supports the system's overall IT and distance learning infrastructure and provides online course delivery to students across 13 community colleges.² While TN eCampus coordinates distance education in general, digital learning support and resources are also provided at the state and local levels to all institutions across the system.

1 The Tennessee Board of Regents. (2021). 2015-25 TBR Strategic Plan. Accessed September 2021. <https://www.tbr.edu/board/2015-25-tbr-strategic-plan>.

2 Over 450 online courses are available through TN eCampus, including many of the core General Education courses that are transferable among partner institutions.

TBR's funding for these initiatives comes from the legislature for direct statewide investments or from operational charge backs to the institutions. For the past several years, TBR's professional learning efforts, out of the CITL, get funding in part by a grant from the Bill & Melinda Gates Foundation. Additionally, TBR uses the state-allocated Access & Diversity (A&D) funds to support faculty learning through a partnership with Achieving the Dream (ATD). In particular, TBR uses A&D funding to compensate faculty who engage in course revitalization and redesign efforts. Targeted external grant funding is also used to support new initiatives (e.g., closing the equity gap for Black male students) that do not have funding allocated from existing revenue streams.

KEY DIGITAL LEARNING INITIATIVES

As part of focused efforts to ensure that all learners are successfully completing a credential and that equity gaps are intentionally being closed, a few key initiatives are underway:

- Access to affordable course materials — An OER adoption initiative focused on ensuring that all students have access to and can afford high-quality course materials across the Tennessee Board of Regents system.
- Professional development focused on equity — Centralized professional learning offered through the CITL that builds community and establishes faculty as ambassadors who can facilitate staff engagement and buy-in.
- Analytics used to drive continuous improvements — Institution-level data is centralized, transparent, and publicly available, and institutions are provided with training and support to monitor progress towards equity and student success goals.

PROGRESS MADE

- The OER Grant Program saved the 2021-2022 cohort of TBR students \$1.1 million by equipping them with OER instead of used textbooks.³
- With TBR grant funding, faculty and staff across TBR were incentivized and supported in rolling out dozens of digital learning and student success initiatives at their respective institutions.
- TBR's publicly available data dashboards and college profiles brought transparency and visibility to their systemwide equity and student success initiatives. TBR uses these dashboards to identify equity gaps and revise recruitment and retention practices in response.
- TBR leverages the partnership with Achieving the Dream to use data analytics to design actionable strategies for improving outcomes for minoritized student groups.

³ TBR plans to generate and evaluate student success data (after the fall 2021 term) to understand the effects of open pedagogy on student outcomes.



Student Success for Digital Learning

TBR leverages OER to ensure that all learners have access to course materials on day one.

TBR works in partnership with the TN Open Education initiative to encourage OER adoption across their colleges. By allocating grant funding to individual institutions and leveraging system-level staff to coordinate this OER initiative, TBR assists colleges in overcoming high textbook costs, which are a consistent barrier to student success.

Goal

Affordable course materials compared with traditional textbooks will save students money and enable them to gain access to materials by the first day of classes.

Investments and Actions

In 2020, the Tennessee Higher Education Commission (THEC) Textbook Affordability Task Force launched TN Open Education, a statewide movement to expand the development and use of OER.⁴ In order to increase the affordability of materials and ensure all students have access, TBR has partnered with TN Open Education and devoted staff to coordinating scaling efforts and securing larger grant funding to provide additional resources to the OER initiative and sustain long-term student access to OER. TBR designated faculty teams to write comprehensive OER texts for select courses and work on book outlines that identify the objective, source, and licensing of OER materials.

The primary funding source for TBR's OER Grant Program, in which TBR awards grant funding to individual colleges to adopt OER, is the A&D grant program. Administered by the Office of Organizational Effectiveness and initially established in 2008 to support TBR's continued efforts to eliminate barriers to post-secondary access and diversity, the A&D program scope was broadened in 2010 to include a focus on student success and completion, in alignment with Tennessee's Drive to 55 initiative.⁵ With the goal of equipping 55% of Tennesseans with a college degree or certificate by 2025, the Drive to 55 is a statewide mission that TBR's OER efforts help to achieve. As a member of the Drive to 55 Alliance (an active alliance of private sector, community, and nonprofit partners), TBR aligns OER initiatives with Drive to 55's mission of accessible, affordable education.

Grants awarded by TBR for creating OER courses totaled \$478,000 for 19 faculty-led teams at 11 colleges and universities.⁶ Additional faculty and courses using OER are added across the system every year, and courses are flagged as OER in the catalogue so that students can make informed choices. To ensure that students understand what OER means for their education, faculty and advisors at the institutional level are advising

4 The Tennessee Board of Regents. (2021). Tennessee Open Education. Accessed September 2021. <https://www.tbr.edu/academics/tennessee-open-education>.

5 Drive to 55 Alliance. (2018). Drive to 55. Accessed September 2021. <https://driveto55.org/the-alliance/>.

6 The Tennessee Board of Regents. (2021). Tennessee Open Education. Accessed September 2021. <https://www.tbr.edu/academics/tennessee-open-education>.

students about no or low-cost materials (they generally use the term “zero textbook cost,” rather than OER, because it is more readily understood by students) and their benefits. At the system level, TBR has a communications plan, which includes funding faculty members to serve as “OER Facilitators” who lead communications on their respective campuses.

Progress Made

Students benefit from substantial cost savings through TBR’s OER initiative: the 2021-2022 cohort of students are saving \$1.139 million by using OER instead of used textbooks. Students also have access to course materials on the first day of class.

As part of their partnership with TN Open Education, TBR is collaborating with other colleges and universities in Tennessee to develop a five-year plan to scale OER statewide.

To maintain momentum in accessible course materials, accessibility standards for OER are driven at the system level, wherein TBR leadership leads audits and trainings to monitor accessibility systemwide. TBR leaders developed an [Accessibility Timeline for 2021](#) that outlines the various projects (and respective participants) necessary for institutionalizing their commitment to accessible education. This timeline outlines TBR’s accessibility work on an annual basis, and annual course-level audits are done where TBR collects and reviews the accessibility data. The Office of Student Success monitors TBR’s progress on accessibility and leverages centralized data review and leadership to ensure progress.

Professional Learning



TBR’s centralized approach to professional learning is focused on high-impact teaching, use of digital tools, and equity.

Managed through a centralized resource – the CITL – TBR’s role in funding and leading professional learning across their system has driven the adoption of digital learning tools to promote student success. This top-down approach of providing campus leaders and faculty with guidance and resources has allowed TBR to align all institutions with their strategic focus on high-impact teaching and equity.

Goal

TBR incentivizes institutional participation in centralized professional learning in order to cultivate faculty buy-in for systemwide digital learning goals and initiatives.

Investments and Actions

In coordinating instructional change, TBR involves faculty leaders to foster agreement and build consensus, then disseminates goals and strategies to institutions during regular convenings with institutional stakeholders. A key strategy is collaboration with

institutional-level faculty “champions,” who the Vice Chancellor for Student Success returns to as points of contact. These champions then advocate for the evolution and scaling of digital learning initiatives among their peers.

To bring teams of faculty and staff together, TBR leverages external funding. For the past six years, the system’s professional learning efforts were funded by the Bill & Melinda Gates Foundation and Lumina Foundation grants. In addition to grant funds, TBR has investments from The Higher Education Commission (THEC) and uses their A&D funds to support faculty learning. For example, TBR uses this funding to incentivize professional learning across the system by paying for faculty development opportunities. Mini grants, awarded by TBR to individual institutions with A&D funding, are a key strategy for incentivizing internal initiatives. These grants usually do not exceed \$15,000 each and focus on initiatives such as student engagement, retention, and success; course revitalization — scaling HIPs at community colleges; and low-to-no cost educational support materials.⁷

TBR increasingly adopts HIPs as a key component of the strategic plan’s completion pillar. Implemented to fulfill equity, strengthen collaboration between faculty and staff, harness innovation, and enhance institutional capacity, TBR has worked to scale and code HIPs across all TBR institutions with the goal of each student participating in a minimum of two HIPs before graduating. To facilitate buy-in and implementation of HIPs, TBR built an HIP Ambassador Program (consisting of master faculty who lead a community of practice among the institutions) and provided faculty with HIP video summaries, short videos that describe each HIP available to improve student success across course modalities.

One particularly impactful initiative is the system-driven HIP of technology enhanced learning. This work, supported by the CITL, focuses on how faculty can use technology creatively to drive classroom success. The Office of Student Success shared a [technology enhanced learning \(TEL\) taxonomy](#) with instructors that focuses on instructional practices for leveraging digital technologies to enhance teaching and learning. Programmatic elements of digital learning that TBR seeks to improve through TEL include institutional commitment; faculty commitment; infrastructure; curriculum integration; interdisciplinary focus; scale; integration with other HIPs; equity; and assessment.

Progress Made

Faculty across TBR have worked collaboratively with leadership to align on goals and strategies for digital learning. TBR also tracks student enrollment at the course level, tagged by HIP use, enabling visibility into the breadth of HIPs and to disaggregate data by course outcomes. Across the Tennessee Board of Regents system, faculty are increasing adoption of widely tested, high-quality teaching and learning strategies. Over time, this data can be used to conduct analysis on the extent to which outcomes are being influenced by the use of these practices.

7 The Tennessee Board of Regents. (2021). Access & Diversity Grants. Accessed September 2021. <https://www.tbr.edu/oesi/access-diversity-grants>.

- In the summer of 2021, TBR’s virtual professional learning included 500 registrants
- During the 2019-2020 academic year, nearly 33% of TBR students (systemwide) were enrolled in a HIP course, where the HIP is being used and coded in TBR’s student information system⁸



Evaluation and Analytics

TBR leverages data analytics to track and encourage institutional progress towards systemwide goals.

TBR uses a network of campus-level dashboards and equity profiles to monitor and incentivize colleges’ progress towards the larger system’s equity and student success goals. By centralizing and publishing this data online, TBR seeks to promote systemwide visibility and ongoing learning. Adoption and usage of analytics has grown as TBR commits to revising recruitment and retention practices to close equity gaps.

Goal

Instead of working toward a specific completion goal, TBR seeks to increase completion in service of the Drive to 55 initiative. As part of this initiative, TBR seeks to increase the number of credentials awarded to their students by 2025, with an emphasis on ensuring that students from minoritized student groups equitably benefit. For example, in 2020-2021, nearly 14,500 students graduated from TBR community colleges, and an additional 381 graduates next year will help TBR reach the annual target necessary to achieve the Drive to 55 goal.⁹

Investments and Actions

Publicly available college dashboards and profiles help the institution to monitor and promote progress. TBR publishes their community college and TCAT (Tennessee College of Applied Technology) data dashboards online. Dashboard topics include general enrollment trends by program, status, and demographics, as well as enrollment by student types: dual enrollment, lottery enrollment, income, and adult learner (25+). These dashboards are interactive in that readers can filter for specific criteria and hover over charts to see additional information.

By disaggregating data, TBR makes transparent the outcome gaps between different groups of students and informs strategy on improving these outcomes. For example, in 2021 TBR community colleges saw the number of Black students drop by 8% from 2020 and by 22% from 2019. During this same period, the number of female students decreased by 10%, compared to a 7% drop for male students. Upon using this data to identify gaps,

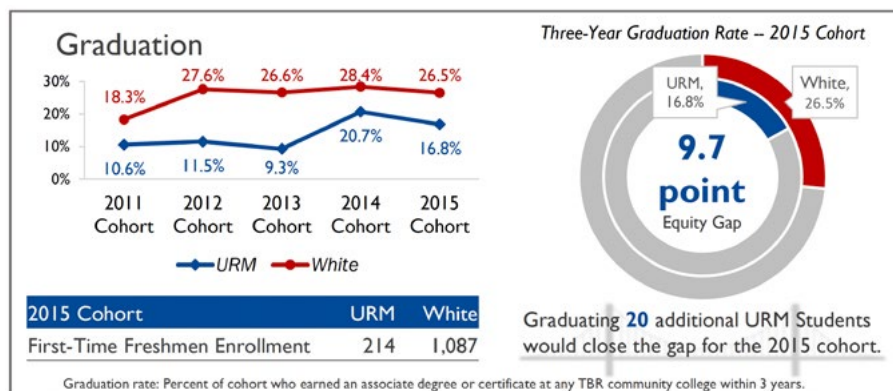
⁸ To be considered a HIP course, it must meet the minimum definition of practice listed on the taxonomy for that practice.

⁹ In 2019-2020, 6,674 students graduated from TBR TCATs. An additional 1,849 graduates next year will help TBR reach the annual target necessary to achieve the Drive to 55 goal.

TBR seeks to fulfill the system's open-access mission by ensuring that each college develops specific goals and actionable strategies to boost recruitment and retention. TBR's Strategic Enrollment Management (SEM) is the systemwide effort, guided by the mission, vision, and strategic priorities, to achieve institution-specific goals for enrollment, persistence, retention, and graduation. As part of SEM, TBR's institutions have created strong partnerships with Achieving the Dream (ATD) as they work to identify emerging needs and ways to improve practices across the full spectrum of capacities required for improved student outcomes. Through partnership with ATD, each college has access to a coach who helps make use of the data.

TBR also profiles institutional data on first-time freshman enrollment, graduation rates (overall and three-year), and retention rates (overall and first-year). Such outcomes are disaggregated by race and gender and displayed in reports that are accessible on the system's website. Such metrics are used at the system level to monitor institutional progress towards equity and student success goals.

While each technical college has a TCAT Profile that includes enrollment and student success data, each community college has a college data profile, access and success equity profile, and student success profile. Each college's access and success equity profile identifies existing racial equity gaps for graduation and first-year retention rates. They also show how many additional graduating or returning underrepresented minority (URM) students are needed to close the respective equity gaps for a given graduating cohort. Campus administration and TBR board members use these metrics to inform their strategic goals and initiatives.



A portion of Columbia State Community College's 2018 Access and Success Equity Profile.¹⁰

10 The Tennessee Board of Regents. (2019). Columbia State Community College. Accessed September 2021. https://www.tbr.edu/sites/default/files/college-profiles/equityprofiles/ColumbiaState_EquityProfile.pdf.





Progress Made

TBR continues to monitor institutional data to check on systemwide progress in working towards strategic priorities, namely open access and completion. Using data analytics as a tool for closing equity gaps, TBR leverages systemwide dashboards to identify challenges and drive change according to system and statewide goals. At the system level, TBR is able to assess which schools are doing better than others, then dig more deeply into what practices are enabling success and share that knowledge with others.



INSTITUTIONAL CASE STUDY

California State University, Fresno (Fresno State)

Website 	Location 	Institution Characteristics 	Student Characteristics, Fall 2020* 
fresnostate.edu	Fresno, California	4-year public, HSI, AANAPISI	15% Age 25+ 55% Pell 74% Students of color 23,000 total undergraduate enrollment

Summary

California State University, Fresno (Fresno State) is located in Central Valley, California, and is one of the 23 public universities within the California State University system. Fresno State is a recognized Hispanic Serving Institution (HSI) and an Asian American/Native American/Pacific Islander-Serving Institution (AANAPISI). In the fall of 2014, Fresno State launched a priority initiative to create an engaging and inclusive learning environment for students. The institution effectively reduced equity gaps by providing students with the latest technology tools and devices at no additional cost and by investing in change management efforts that increase faculty, staff, and leadership focus on student success.¹

KEY LESSONS

- An integrated approach to institutional leadership enables a sustained focus and momentum toward addressing equity gaps. Backed by sustained funding, Fresno State focuses on course redesign, faculty professional learning, and accessible technology for students to implement digital learning initiatives.
- Key technology infrastructure investments focus on equitable access. Key investments focus on providing students with the appropriate technology infrastructure (i.e. hotspots, iPads, instructional materials) and faculty with training to implement these tools in their courses.
- Course material affordability is prioritized. A focus on ensuring that course materials are affordable and accessible to all students has been significant in improving student success rates.

¹ Fresno State University. (2021). *DISCOVERe Mobile Technology Program: CSUCCESS*. Accessed January 3, 2022. <https://www.fresnostate.edu/president/discovere/index.html>.

Strategic Goals for Digital Learning

Fresno State recognizes the needs of their community and highlights them in their campus initiatives. The community population is comprised of 65% first generation college students and the institution is located in a rural valley. Fresno State desires to ensure that their community not only has access to digital devices, adequate Wi-Fi, and technology, but is also equipped with the digital literacy, knowledge, and skills to use those tools successfully. In addition, ensuring faculty are equipped to implement technology in support of student learning is a key pillar and ongoing part of institutional learning.

As stated in the 2016–2021 strategic plan, Fresno State will “implement bold, focused strategies designed to maximize success for their diverse student body.”² Building on this stated goal, Fresno State made a commitment to providing a transformative educational experience that prioritizes physical and technology infrastructure to support a sustainable and welcoming campus environment.³ Specific key goals that are part of Fresno State’s strategy to address equity gaps include:

- **Increase digital literacy across the Fresno State community (inclusive of students, faculty, staff)**
- **Provide students and faculty with the technology infrastructure and training to succeed**
- **Improve student retention rates and GPAs**

Two particularly effective equity-focused technologies at Fresno State are CSUCCESS (California State University Connectivity Contributing to Equity and Student Success) and DISCOVERe. CSUCCESS is an initiative led by the California State University system to enhance student achievement and create more equitable opportunities by providing first-year and transfer students with mobile devices, which they keep through graduation.⁴ DISCOVERe is an initiative coordinated by the office of Innovation and Digital Excellence for Academic Success (IDEAS) at Fresno State to foster an inclusive learning environment, equip students and faculty with mobile devices, and redesign courses to leverage technology in the classroom.

² Fresno State Strategic Plan, 2016-2020. 2016.3.4 Flyer.pdf (fresnostate.edu)

³ Ibid.

⁴ Ibid.

Organizational Model to Support Digital Learning

The President, Office of the Provost, and Chief Technology Officer at Fresno State prioritize a commitment to digital learning as a strategy for equitable learning outcomes. They work collaboratively to advance and fund initiatives across the academic and technology enterprise. Reporting to the Office of the Provost, the office of Innovation and Digital Excellence for Academic Success plays a key leadership role, providing faculty with tools to help improve teaching and learning through technology, professional development, and support of academic uses of technology. Internal funding allocations, philanthropy, and state funds support digital learning initiatives. For example, Fresno State Foundation money first funded DISCOVERe. With CSUCCESS, centralized support from the CSU system and federal COVID-19 funding purchased the necessary 6,400 iPads. To sustain this initiative, CSU is exploring permanent funding options.

KEY DIGITAL LEARNING INITIATIVES

- **Cabinet-level prioritization of digital learning to reduce equity gaps.** Senior leadership continually cultivates the priorities, policies, and culture to uphold an institutional commitment to using digital learning to close equity gaps.
- **Intentional redesign of gateway courses.** Targeted course redesign focuses on reducing DFW rates in largest courses and incorporating digital pedagogies.
- **Investment in digital devices.** The institution invests in devices and hot spots for instructors and students to ensure access to course materials and increase digital literacy.
- **Investment in faculty professional learning to implement digital pedagogies using devices.** Faculty professional development trainings are designed to improve student engagement, support, and sense of community.

PROGRESS MADE

- Digital learning initiatives — including device and Wi-Fi distribution for mobile-accessible courses — ensured that students had access to courses in all modalities, drastically reduced access gaps, and ensured that more students from rural and poverty-affected areas had access to digital tools and technology training.
- Faculty professional development produced improved student engagement, support, and sense of community.
- Sustained commitment in DISCOVERe marked by increased funding, devices distributed, faculty trained, and students enrolled in DISCOVERe courses
- Redesigned gateway courses reduced DFW rates with the use of technologically-enhanced classrooms and pedagogies.



Leadership, Budget, and Policy

Fresno State developed a leadership structure focused on setting institutional priorities, policies, and culture to uphold an institutional commitment to using digital learning to close equity gaps.

Fresno State's centralized leadership set the foundation for their digital learning and equity work to flourish. There is an overarching commitment by the senior-level cabinet to invest in their faculty as they support their students in the classroom and in the workforce. In addition, Fresno State is able to deliver consistent messaging in support of digital learning initiatives across their campus. Senior leadership spread their commitment to digital learning as a key driver of equitable outcomes across the institution, creating a culture of continuous learning and experimentation at Fresno State.

Goal

Fresno State drives to ensure that investments and policies support sustained change in ensuring all students can be successful and in reducing gaps in student outcomes for minoritized and poverty-affected learners.

Investments and Actions

Cabinet members offer consistent communication to employees and students that emphasizes digital learning as part of the campus culture. Included explicitly in the strategic plan, senior leadership — the President, Provost, and CIO — focus on advancing the use of high-quality digital learning in service of student outcomes. Investments in the office of Innovation and Digital Excellence for Academic Success create a faculty resource that empowers and engages faculty in this work via learning communities and other faculty-led activities. Where needed, partnerships to bring in external expertise or capacity (e.g., with the Association of College and University Educators, ACUE, for professional learning) are deployed.

Policies are put in place to ensure the fostering of a culture of faculty experimentation and ongoing improvement. Leadership supports trying new teaching strategies, taking risks, and experimenting with new best practices. For example, when faculty implement new digital tools in the classroom, they are encouraged to share their learnings regardless of the outcome and supported by institutional assessment in creating an evaluation plan. While some of these experiments succeed and are then scaled, if the experiment does not succeed, faculty are asked for lessons learned so that all faculty and staff can benefit from ongoing growth and improvement. This culture of experimentation and collaboration has been key to Fresno State's momentum in digital learning.

To support partnership and decision-making across teams, Fresno internally created Tableau dashboards that allow for data visualizations that are accessible across campus and for faculty to disaggregate data. Faculty and staff use these data presentations to learn what's working and not working in their classrooms, and, ultimately, they are able to work towards more equitable student outcomes. In this case,

creating relationships with faculty across campus is important, especially when used alongside data available in real time.

Also, sustained funding is allocated specifically to digital learning, enabling efforts to gain momentum. Fresno State leadership upholds an overarching commitment to invest in digital learning initiatives every year. For example, DISCOVERe funding has never gone away. Every year, 60 faculty get funding for course redesign and training on how to engage students with mobile devices in the classroom. Universal design, in addition, received steady funding for the last five years. Leadership at Fresno State invests in their faculty because they believe it will ultimately support their students in the classroom and beyond. Senior leadership continues to seek revenue sources for their digital learning and student success programs, whether from the Fresno State Foundation, government, or elsewhere. As Fresno State's cabinet makes financial decisions, the continual emphasis on digital learning contributes to the institution's success thus far.

Progress Made

- Fresno State has cultivated a college-wide digital learning culture focused on continuous learning, improvement, and equity.
- Faculty members report feeling empowered to explore new strategies and tools related to digital learning, digital literacy, DEI work, and technology.
 - In 2018, Fresno State funded Associate Professor of Agricultural Business Pei Xu's research to analyze the impact of DISCOVERe mobile technology on learning, which resulted in a research publication in the *International Journal of Technology Enhanced Learning*⁵
 - Through the Office of Institutional Effectiveness (OIE) faculty fellow program, Associate Professor of Criminology Yoshiko Takahashi analyzed institutional data with OIE staff and now uses it as a guide for facilitating conversations around student success in the digital learning environment.
 - According to Assistant Professor of Literacy, Early, Bilingual, and Special Education Kimberly Coy, Fresno State's Center for Faculty Excellence (CFE) improved her teaching and student success by providing a platform for her to explore inclusion in the university classroom and the tools to help her implement high expectations for her students.
- Digital learning initiatives such as DISCOVERe continue to receive institutional funding and, in turn, promote faculty learning and student success.

5 Fresno State University. (2021). *Previous Stories*. Accessed October 12, 2021. http://www.fresnostate.edu/academics/cfe/faculty_stories/previous-stories.html.



Professional Learning

Fresno State invests in consistent professional learning to prepare faculty to teach across modalities.

Fresno State supports faculty in incorporating digital learning through course design support and professional learning.

Goal

Fresno State provides faculty with professional development opportunities and technology training to equip them with the skills to teach in digital learning environments confidently and effectively. In doing so, Fresno State seeks to promote student success.

Investments and Actions

Through the office of Innovation and Digital Excellence for Academic Success, Fresno State supports instructors via a variety of short-form certification offerings in course design, instructional practices, and diversity, equity, and inclusion, to name a few. Also, faculty are provided with digital devices and accompanying professional learning to effectively leverage devices in their classrooms. During the 2021-2022 academic year, faculty will receive access to Universal Design for Learning principles to ensure that course content is inclusive for all learners.

Policies are also in place to encourage and support faculty participation in professional learning. There is an academic policy [\[APM206\]](#) that requires faculty teaching in “technology-mediated” courses (defined as online, hybrid, and blended courses) to invest 15-20 hours in professional development training. Overall, this creates a general understanding and foundational alignment for blended/online learning. In addition, Fresno State has adopted the CSU Quality Learning and Teaching (QLT) Rubric for quality assurance of online and blended courses that faculty must utilize in their course design.

Fresno State also draws upon CSU to support their professional learning efforts. With a focus on supporting faculty regardless of the modality they are teaching, CSU system’s centralized online course service hub serves additional faculty support for hybrid and online learning. The CSU system also facilitates the CSU Certificate Program in Student Success Analytics. This [certificate program](#) provides cross-divisional teams of higher education faculty, staff, and administrators the opportunity to improve student success on their campus.⁶

Progress Made

- Approximately 75% of Fresno State faculty are trained in course design and delivery.
- More than 1,200 faculty accumulated at least 20 hours of professional development over the last two summers.

⁶ California State University. (2020). *Student Success Analytics Certificate Program*. Accessed January 3, 2022. <https://certificate-program.dashboards.calstate.edu/index.php>.



Course Design and Delivery

Fresno State prioritizes redesigning first-year and gateway courses that generally show high DFW rates.

At Fresno State, course redesign builds better communication between faculty and students, with a focus on prioritizing courses where students struggle the most (i.e. Writing and Chemistry) and where equity gaps are present. Fresno State's faculty and staff take a collaborative approach to course redesign to improve student outcomes with digital learning.

Goal

Fresno State seeks to decrease DFW rates in gateway courses and support students and faculty through technology and pedagogical training.

Investments and Actions

The DISCOVERe initiative targets freshman-level courses with high DFW rates that have been identified as “bottleneck” courses in students’ academic paths. During the 2021-2022 academic year, Fresno State plans to strategically redesign a total of 60 courses and a minimum of 30 freshman-level courses. In this way, DISCOVERe captures Fresno State’s efforts to use digital learning to close equity gaps, especially in gateway courses.

During the fall 2021 semester, 30 targeted faculty are teaching redesigned courses for first-year students. All DISCOVERe students are equipped with digital devices and supported by trained faculty. To ensure that the DISCOVERe program is accessible and inclusive to all students, all DISCOVERe faculty are required to implement course materials that are at zero cost or at a cost at least 30% lower than in the past.

In addition, Fresno State assigned student assistants who are trained in the campus LMS and pedagogy to these courses to provide support to faculty members. This allows faculty to focus on teaching, and not on troubleshooting technology, as students adapt to new tools and learn the curriculum. Lastly, as part of their work to improve accessibility and affordability, Fresno State introduced other tools such as Blackboard Ally and additional OER initiatives.

Progress Made

- Students with access to hotpots generally have higher retention and higher GPAs. In fall 2020, there was a significant difference in term GPAs between students with access to hotspots (3.30) and those without access (3.06).
- The course redesign resulted in lower DFW rates at the department level for Math and Chemistry, according to the institutional leadership.
- Fresno State saved students \$6 million during the 2020-2021 academic year with OER.



Technology Infrastructure

Fresno State provides students and faculty with the necessary technology infrastructure to succeed.

Fresno State focuses on investing in devices and digital tools that support the high-quality learning experience.

Goal

The goal of these efforts is to reduce the technology and digital equity gap for incoming students and increase student success and retention rates.

Investments and Actions

Fresno State focuses on the intersection between personnel and technology infrastructure. Senior leadership emphasizes communication and building partnerships with academic affairs, informational systems, and student service departments. Collaboratively, these partnerships help faculty and staff strategize how they can be more inclusive in their classrooms.


Fresno State reports two equity-focused technology initiatives as particularly effective: CSUCCESS and DISCOVERe. CSUCCESS is an initiative led by the California State University system to enhance student achievement and create more equitable opportunities for the CSU community by providing first-year and transfer students with iPads, which they keep through graduation.⁷ During the pandemic, the California State system invested more than \$18 million to purchase more than 21,000 laptops and tablets and 10,000 mobile Wi-Fi hotspots for students, in addition to loaning out several millions of dollars' worth of existing equipment.⁸ Fresno State, in particular, distributed thousands of iPads to incoming first-year and transfer students at the start of the 2021-2022 academic year to ensure that all students, as they pursue their degrees, have access to devices. Fresno State sees mobile devices as fundamental to their students' overall engagement with the University. Everything a student might need in a given term – access to tutoring, schedules of events, communication with their counselor, and reminders for upcoming assignments and quizzes – is accessible via the iPad. In turn, the iPad serves as the student's consistent and reliable connection to Fresno State.

Launched in 2014, the Fresno State DISCOVERe program is a priority initiative to foster a learning environment that is inclusive and engages students and faculty, with the goal of improved student success in the classroom. Specifically designated as DISCOVERe, courses are redesigned as mobile-device-accessible to allow for student portability, convenience, and teaching materials available for access anytime and anywhere.⁹

⁷ Fresno State University. (2021). *DISCOVERe Mobile Technology Program: CSUCCESS*. Accessed January 3, 2022. <https://www.fresnostate.edu/president/discovere/csuccess.html>.

⁸ Ibid.

⁹ Fresno State University. (2021). *DISCOVERe Mobile Technology Program*. Accessed January 3, 2022. <https://www.fresnostate.edu/president/discovere/index.html>.



DISCOVERe proved effective in breaking down the digital divide and reducing equity gaps by providing students who enroll in DISCOVERe courses with access to the latest technology tools and devices at no additional cost.¹⁰ DISCOVERe courses are denoted as such in the course catalogue, which makes it easy for students to opt in. Crucial to DISCOVERe's success is the training of faculty in how to use mobile device in their courses, as well as how to engage students with digital devices to maximize their success.

Progress Made





- During the 2020-2021 academic year, Fresno State students received 2,500 hotspots.
- Fresno's fall 2020 data show that students who received the institutional hotspots not only enrolled in more credit units but had higher GPAs than the students who did not receive this resource from the institution.
- Following this promising evidence, Fresno State seeks to expand its DISCOVERe course offerings. With the support of campus leadership and appropriate funding, the office of Innovation and Digital Excellence for Academic Success will begin an additional cohort of up to 60 DISCOVERe faculty in the spring and summer of 2022 to begin leveraging technology in their teaching pedagogy in fall 2022.

¹⁰ Ibid.



INSTITUTIONAL CASE STUDY

University of Texas at El Paso

Website 	Location 	Institution Characteristics 	Student Characteristics, Fall 2020* 
utep.edu	El Paso, Texas	4-year public, HSI	21% Age 25+ 58% Pell 90% Students of color 21,000 total undergraduate enrollment

Summary

The University of Texas at El Paso (UTEP) is a public research university serving a majority Latinx student body. The institution's investment in digital learning serves multiple populations of students including adults, military, and full-time students who often work full-time as well. The digital learning infrastructure at UTEP supports all modalities of courses in using digital tools and integrates high-quality teaching, while helping students to capitalize on the assets they bring to their education.

KEY LESSONS

- Online and hybrid courses benefit from undergoing several types of review (e.g., technical and qualitative) prior to approval and deployment
- Design principles for online-based courses can inform course design choices for all modalities, including face-to-face instruction
- Digital infrastructure can incorporate high-impact practices (including active learning experiences that aid in learning and retention) at the course and institutional levels

Strategic Goals of Digital Learning

Digital learning at UTEP contributes to the two institutional pillars: access and excellence. Post-traditional and underserved students — including Latinx students, poverty-affected students, students with military backgrounds, and adult learners — represent the core of the student body, and the design of the institution’s digital learning initiatives responds to the learning needs of these groups. UTEP ensures that all students, whether they attend classes online or on campus, have equal access to services, including personalized guidance from an enrollment counselor and a student success advisor. UTEP intentionally capitalizes on the diversity, professional experience, and other assets that students bring to their education, and helps students to internalize and narrate the knowledge and skills they develop. UTEP’s two strategic goals for building on this asset-based approach include: 1) achieving measurable changes in learning outcomes related to skill development; and 2) attaining meaningful employment and/or enrollment in graduate school for students.

Organizational Model to Support Digital Learning

The Office of the Provost and Vice President for Academic Affairs are responsible for the oversight of UTEP’s eight colleges and schools, as well as a host of academic support units focused on student success and faculty professional learning. Reporting to the Office of the Provost, Extended University houses UTEP Connect, the institution’s hub for online degree programs, and the Center for Instructional Design (CID), which consults with instructors on design choices including the integration of digital course materials for online and hybrid courses, and also reviews courses for accessibility and quality. UTEP has a \$6.2 million operating budget for digital learning, allocating approximately \$700,000 to the CID.

KEY DIGITAL LEARNING INITIATIVES	PROGRESS MADE
<ul style="list-style-type: none">• Course design and redesign for higher quality and access. UTEP’s Center for Instructional Design works closely with faculty to ensure high-quality digital learning experiences for all students.• Student support and asset-based approaches to learning. The UTEP Edge Program empowers students to articulate their talents and elect experiences to further develop their strengths and prepare themselves for life beyond graduation.• Professional learning tailored to digital learning. UTEP’s Teaching Online and Teaching Hybrid Academies equip faculty with the skills and confidence to teach in new course modalities.	<ul style="list-style-type: none">• The majority of first-year UTEP students engage in high-impact practices (HIPs) and experiences to prepare them for success at UTEP and beyond.• Student success initiatives, including digital learning principles and practices, contribute to significant increases in degrees awarded and post-graduation success, as well as decreases in time to degree.• Professional learning efforts equip faculty with the technology to improve the equitability and effectiveness of their teaching, as well as to better understand and respond to the needs of UTEP students.



Course Design and Delivery

UTEP conducts course quality and technical reviews to improve quality and access.

The CID supports faculty through individual course consultations, which ensure engaging and learning-aligned objectives for newly designed courses. The CID also collaborates with faculty to conduct technology reviews before new courses launch, which is fundamental to ensuring sustainable and successful digital learning experiences.

Goal

By standardizing course and technology review processes, UTEP seeks to ensure high-quality learning experiences for all students regardless of enrollment status or course modality.

Investments and Actions

The CID conducts comprehensive course quality and technical review processes for all online-based courses, and both are required before the deployment of a course. Course quality reviews follow a highly detailed rubric that includes checklist items for Organization and Structure, Interactivity and Communication, Usability and Scalability, and Course Content. The technical review process focuses on accessibility and ADA compliance and includes a 13-step checklist to ensure syllabus and LMS content are up to date, links and pages load correctly, and images and audio/video include descriptions and captioning. All content uploaded to the LMS uses accessibility software, and any additional online content linked outside of the LMS is reviewed with this software to ensure that all files associated with a course meet accessibility standards.

The CID also routinely consults with instructors to integrate universal design teaching principles learned from the online teaching environment into their face-to-face and hybrid-based courses. Over time, departments have adopted an instructional philosophy emphasizing that all courses, regardless of modality, should follow design principles that require quality and technical reviews. This philosophy ensures that the benefits and accessibility standards of digital learning are inherent in all courses, regardless of modality.

Progress Made

- UTEP awarded 32% more degrees in 2019-2020 than in 2009-2010. The increase in degrees awarded just from 2015-2016 to 2019-2020 was 11%. Of these 2019-2020 graduates, 90% were from minority or underserved groups, including the 77% of graduates who identify as Hispanic.
- 81% of UTEP undergraduate students graduated in six years or fewer as of 2019-2020, compared with 71% in 2003-2004. Six-year graduation rates at UTEP climbed by 6% overall in the past five years, while those for Pell recipients and First Gen students climbed by 7% and 8%, respectively.

- Over 27% of undergraduate students who graduated in 2019-2019 enrolled in a UTEP graduate program or another institution within three years of graduation.



Student Success for Digital Learning

UTEP adopts an asset-based learning approach with the UTEP Edge Program.

Launched in 2016 to enhance the assets that UTEP students bring to their education, the UTEP Edge initiative provides ongoing programming to help students articulate and develop their core competencies through and beyond graduation. UTEP Edge started as a Quality Enhancement Program framework as part of the Southern Association of Colleges and Schools Commission on Colleges accreditation review. As a campus-wide initiative managed by the Office of the Provost, UTEP Edge involves key stakeholders throughout the institution as well as alumni and community partners. A steering committee guides UTEP Edge, along with support from a fellowship program for staff and faculty, key leaders in Student Affairs and Academic Affairs, and a holistic advising model that makes use of student asset data from entry interviews.

Goal

With a primary focus on promoting student success at UTEP and beyond, the UTEP Edge program seeks to empower students by helping them identify their strengths and access experiences to further develop their talents.

Investments and Actions

Made possible by the expertise and dedication of UTEP faculty, staff, alumni, and community partners, UTEP Edge delivers high-impact curricular and co-curricular experiences to equip students with a competitive advantage for success in their academic, professional, and civic lives. A series of high-impact experiences (“Edge Experiences”) and core competencies (“Edge Advantages”) are integrated into students’ academic coursework and co-curricular activities to reflect the institution’s commitment to giving its students an edge over their peers at other institutions. An internal fellowship program engages faculty members in identifying Edge Experiences for highlighting and embedding into their courses.

UTEP Edge’s connection to digital learning is twofold. First, UTEP Connect and the CID ensure that the program is inclusive of all students. In particular, UTEP Edge components are integrated into UTEP’s core courses across all modalities. Secondly, faculty and staff have full access to a set of digital icons representing Edge Experiences and Advantages for adding to course content and programming. Through a concerted, institution-wide effort, students recognize this digital imagery and the concepts it represents, facilitating their abilities to make connections between their schoolwork and their developing

assets, which in turn are positively correlated with degree completion and meaningful employment or enrollment in graduate school. Faculty add a reflection board to their LMS to receive feedback from students, and online students in particular report feeling a connection to the “UTEP Miner” community. The university promotes participation in at least two Edge Experiences as a student success indicator.

Progress Made

The UTEP Edge initiative promotes an inclusive culture for student success by helping distance learners, in particular, feel connected and valuable to the UTEP community. In addition, findings from a Student Achievement report show that the UTEP Edge program facilitates high levels of involvement in high-impact practices and experiences:

- In 2020, 69% of first-year students and 80% of seniors at UTEP reported participation in at least one HIP (i.e., Edge Experience). In addition, 10% of first-year students and 49% of seniors reported participation in two or more HIPs.
- Students recognize that participation in high-impact learning experiences adds value, and these personal assets serve as lifelong skills.
- First-year students at UTEP report significantly higher levels of participation in HIPs than their peers at R1 institutions, the University of Texas (UT) System, and U.S. institutions in 2020.
- In 2020, UTEP seniors reported significantly higher levels of participation in research with faculty members than their peers at UT System and U.S. institutions, and higher levels of participation in service learning than their peers at UT System and R1 institutions.



Professional Learning

UTEP coordinates Teaching Online and Teaching Hybrid Academies to help faculty develop effective teaching strategies in digital learning environments.

Equipping faculty with the skills to facilitate digital learning in their classrooms, UTEP coordinates Teaching Academies to ensure faculty preparation and effective pedagogies in digital learning environments across the institution. These training opportunities serve as valuable supplements to the CID’s course quality review processes, thus maximizing UTEP’s successful course design with digital tools.

Goal

The Teaching Online and Teaching Hybrid Academies aim to familiarize faculty with the assets and challenges of their students and prepare them to deliver high-quality instruction in their respective course modalities.

Investments and Actions

Launched in 2005 and most recently revised just before the COVID-19 pandemic, the CID facilitates four-week, synchronous-based Teaching Online and Teaching Hybrid Academies to ensure the structure and rigor of online and hybrid courses. This initiative requires new hybrid or online faculty members to participate before receiving approval as online course instructors. A primary focus of these programs is the UTEP student population: faculty are encouraged to reflect on the talents and challenges faced by the student body as they design their courses. After completing the Academies, faculty praise the actionable feedback that they received on their courses, specifically in the areas of the course introduction, syllabus, and course plan.

Progress Made

- Since 2013, over 800 faculty and graduate students have completed the Teaching Online Academy (TOA). The TOA transformed into an online training course for faculty members and TAs/RAs, facilitated by CID's instructional design team. This scenario encourages strong networking relationships between faculty, graduate students, and support staff. Through survey data collection, CID makes improvements to content, reflected in every course iteration.
- A positive result of the pandemic is faculty members' recognition and value of Universal Design Learning (UDL). Many faculty learned that having all course material inside of an LMS, regardless of delivery method, is crucial to student success. For example, when rolling over a fully online course into a face-to-face course shell, faculty members know how important it is to have all course content accessible and on-demand.