

Education Technology Optimization and Modernization Primer for 2022

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Initiatives: Education Technology Optimization and Modernization

Education institutions and organizations are thinking beyond the pandemic to evolve new and existing digital capabilities and generate a modern technology framework. We help education CIOs compose plans to deploy education technology systems that optimize delivery and maximize outcomes.

Scope

This initiative modernizes learning environments and helps enterprise technologies deliver frameworks that optimize student engagement and sustain digital acceleration in K-12 and higher education.

Topics in this initiative include:

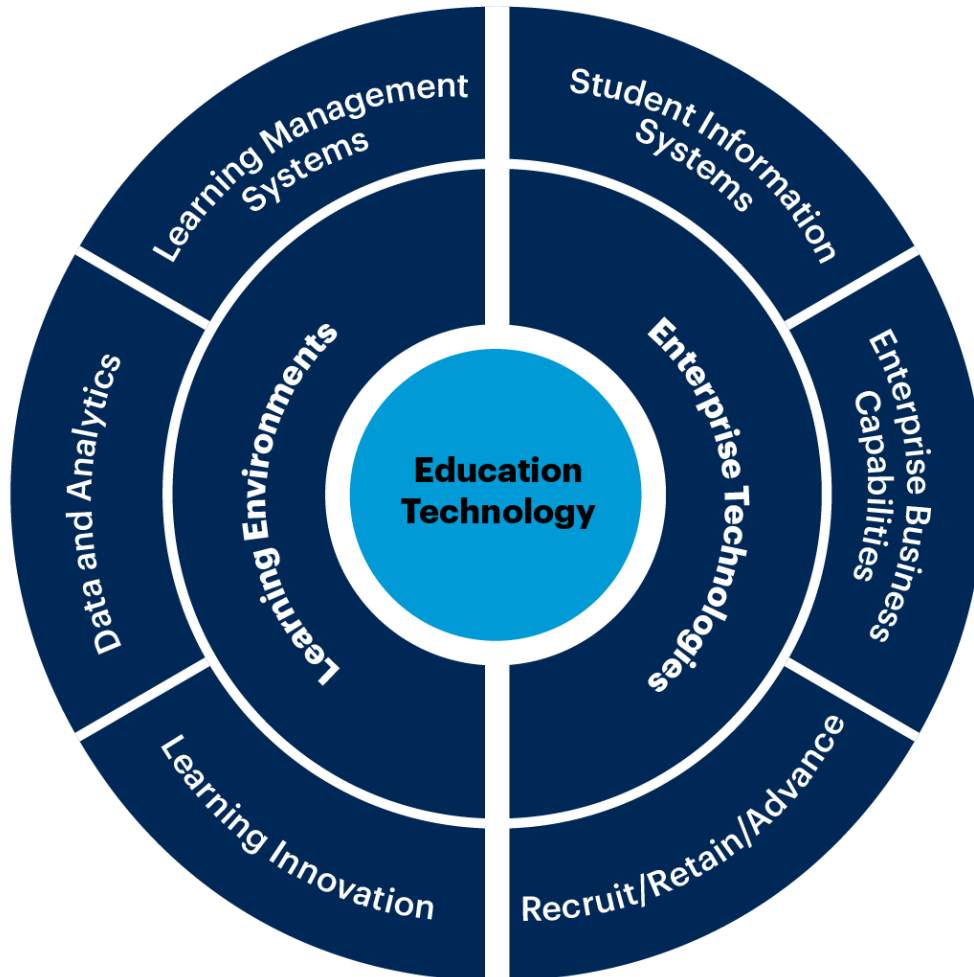
- **Enterprise Technologies:** Innovate administrative systems to achieve the modernization and process agility necessary to compose an enterprise education technology platform.
- **Learning Environments:** Build innovative personalized and scalable learning frameworks to deliver on the broader institutional achievement objectives.

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Analysis

Figure 1. Education Technology Optimization and Modernization Overview

Education Technology Optimization and Modernization



Source: Gartner
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The pandemic forced many education institutions to accelerate investments in digital initiatives while refocusing their priorities. This has resulted in financial and operational challenges. Yet, the pandemic accelerated the need to:

- Modernize architecture
- Adapt processes

- Adjust operating models
- Change delivery habits to support innovative academic offerings and engagement options for many organizations

Sixty-eight percent of IT leaders from K-12 and higher education combined reported a somewhat faster to significantly faster pace of digital business initiatives as a result of the COVID-19 pandemic (see *Advancing Digital Innovation in Education in Response to a Crisis*). Institutions were forced to adapt quickly to remote learning; however, many of their learning technologies, administrative systems and operating models lacked the capabilities and capacity to deliver a virtual or hybrid experience. With the variety of educational and professional development options available in the market, competition for students remains high.

Changing demographics, economic disruption and social turmoil continue to impact education resources and budgets. Higher education has seen a rise in:

- Mergers and acquisitions
- School closures
- Financial stress

Each factor influences how education institutions reevaluate current strategies and delivery models to ensure a sustainable future.

CIOs must leverage the digital momentum resulting from the pandemic to sustain the recent modernization of education technology across enterprise technologies and learning environments to evolve the digital capabilities that institutions have been seeking for years. Education should not attempt to return to pre-COVID-19 models. In higher education, past practices no longer support changing university business models. In K-12, past practices failed to support new demands for greater digitalization of schools. Education institutions — at both the K-12 and higher education levels — are working through how they compose and advance institutional performance during times of instability (see *2022 CIO and Technology Executive Agenda: A Higher Education Perspective* and *2022 CIO and Technology Executive Agenda: A K-12 Education Perspective*).

As education organizations introduce and support the implementation of innovative enterprise technologies, new digital capabilities and services are emerging:

- Virtual/remote and hybrid services for learning, advising, recruiting, PC labs and work
- Artificial intelligence (AI): chatbots, digital assessment
- HyFlex classroom technology
- Cross-life-cycle CRM
- Business intelligence and data analytics
- Alternative credentials
- Cloud/SaaS solutions and services
- Hybrid integration platforms
- Digital integration technologies

Gartner's 2022 education research will provide CIOs with actionable advice to determine the organization's path to build and sustain a modern and optimized technology platform for education. Our research spotlights how modern digital business capabilities can enable the institution's outcomes and optimize services.

Topics

With Gartner's guidance, education CIOs can enable positive student outcomes and help the education organization achieve its broader mission. This evolution requires a shift in administrative and learning technologies to support new and evolving ways of doing business. These systems will no longer focus on enterprise back-office aspects of the organization, but rather provide the link to improve the organization's digital capabilities and digital engagement. The introduction and deployment of innovative enterprise business capabilities will change the role of technology, as it will encompass a broader multienvironment architecture. That architecture is focused on composing a technology framework with applications and point solutions supporting outcome-based objectives that are:

- Flexible
- Data-centric
- Offer virtual engagement

- Support hybrid interactions (see Digital-Outcome-Driven Metrics for Higher Education)

Our research addresses the following topics:

Enterprise Technologies

K-12 organizations and higher education institutions must devise a responsive enterprise technology strategy to:

- Optimize workflows
- Leverage analytics
- Enable effective integration
- Improve engagement
- Provide a satisfying digital or in-person experience

CIOs who effectively lead the modernization of enterprise technologies position their institutions to succeed by managing and adapting digitalization efforts as the organization accelerates to its next normal. CIOs should break down seemingly overwhelming initiatives into composable components that:

- Deliver business value
- Take incremental steps toward sustaining the postpandemic landscape for digital education and hybrid engagement

Questions Your Peers Are Asking

- How do we modernize or replace enterprise technology systems at my institution?
- COVID-19 has accelerated our digital transformation. How can we further leverage the momentum?
- How do we select and deploy technologies to enable functions such as registration, recruitment, enrollment, retention, alumni advancement and other digital services?
- How do we build a technology environment that supports a full complement of enterprise business capabilities?
- How do we engage stakeholders to develop an inclusive modernization roadmap?

Recommended Content

🔑 Some recommended content may not be available as part of your current Gartner subscription.

- [Market Guide for Higher Education Student Information Systems](#)
- [Higher Education CIOs Can Build a Digital Platform to Modernize for the Future](#)
- [Market Guide for K-12 Student Information Systems](#)
- [Market Guide for Higher Education Catalog and Curriculum Management Solutions](#)
- [Review Three Lenses to Focus Higher Education Technology Optimization and Transformation](#)
- [Use Business Capability Modeling to Drive Digital Business Design in Higher Education](#)

Planned Research

- Continued publication of Gartner research that includes enterprise technologies advice, such as:
 - Education Hype Cycle
 - Education Predicts
 - Top business and technology trends in higher education
 - Top trends in K-12 education
- Research guidance to help the CIO modernize enterprise technology environments
- Technology leader survey analysis and education perspectives
- Assessments of the student information system (SIS) market landscape for both higher education and K-12
- Best practices to help the CIO manage enrollment/admission solutions with ongoing response to the COVID-19 pandemic
- Guiding the CIO regarding digital business impact on core systems of record and full student life cycle
- Tools, presentation decks and advice for CIOs working with stakeholders to evolve their digital capabilities and optimize service delivery for student engagement

Learning Environments

The learning environment technology agenda should always be based in and originate from the institution's mission before evaluating technological capabilities. Education institutions need strategies and tactics that will work in an education context to digitally optimize, modernize and even transform their learning environments. This includes understanding:

- Context and drivers for change in teaching and learning
- Key technologies, processes and support models required to sustain the post-COVID-19 acceleration of digital learning capabilities, collaboration tools, remote delivery and virtual engagement

Questions Your Peers Are Asking

- How do I support online, remote, blended or hybrid learning and programs at my organization?
- What factors and vendors should I consider when acquiring, reviewing, renovating or replacing my learning management system (LMS)?
- How do I evolve learning environments?
- How do I implement analytics to improve outcomes and track key performance indicators like student experience, retention, job placement and graduation rates?
- What technologies support blended and HyFlex learning? And/or how do I support them?
- How do I engage faculty in learning technology evolution?

Recommended Content

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- Higher Education Online Learning Maturity Model
- Where Next For Online Learning in Higher Education
- Blended Course Playbook
- Market Guide for Remote Proctoring
- Market Guide for Higher Education Learning Management Systems

Planned Research

- Continued publication of annual reports that include learning environments advice, such as the education Hype Cycle, education Predicts, and top business and technology trends in higher education and K-12 education
- Evaluating the marketplace and guiding CIOs looking to optimize or transform learning environments at their institutions
- Analyzing how higher education institutions are using data to manage student success and how this is likely to evolve and change in the future
- Assessing the learning environment market landscape for higher education and K-12 solutions for LMS, online learning, assessments, proctoring and online program management
- Providing toolkits, case studies and advice for CIOs working with their institutions to begin or expand their online or blended program offerings

Suggested First Steps

- Higher Education Ecosystem 2030: Planning in the Face of Radical Uncertainty
- 2020 Strategic Roadmap for Higher Education Student Information Systems
- Use Gartner Reset Scenarios to Move From Survival to Renewal for Higher Education
- Putting Higher Education Administrative IT on a Diet

Essential Reading

- Hype Cycle for Higher Education, 2021
- Hype Cycle for K-12 Education, 2021
- Top Business Trends Impacting Higher Education in 2021
- Top Technology Trends Impacting Higher Education in 2021
- Top 5 Trends Impacting K-12 Education in 2021
- Predicts 2022: Education – Review, Refocus, Rebuild

Tools and Toolkits

- Tool: Deciding to Replace or Renovate the SIS in Higher Education With the Fitness Attribute Framework
- Toolkit: Strategic Roadmap for Higher Education Student Information Systems
- Toolkit: Higher Education Online Learning Budget Planning
- Toolkit: Managing Instructional Continuity in Higher Education

Document Revision History

Education Technology Optimization and Modernization Primer for 2021 - 4 January 2021

Education Technology Optimization and Modernization Primer for 2020 - 24 January 2020

Related Priorities

Initiative Name	Description
Education Digital Transformation and Innovation	The pandemic forced digital transformation to accelerate, fueling shifts in student learning and engagement. Ongoing disruptions impacting enrollment and resources require education to stay resilient.
Government Tech Optimization and Modernization	This initiative focuses on the unique challenges that governments face in modernizing IT environments and optimizing delivery capabilities and operational capacity.

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Actionable, objective insight

Position your education institution for success. Explore these additional complimentary resources and tools on digital transformation for education IT leaders:



Research

CIO Agenda: A K-12 Education Perspective

Assess the issues and challenges faced by K-12 education CIOs.

[Download Research](#)



Research

CIO Agenda: A Higher Education Perspective

Assess how higher education CIOs can maximize education delivery.

[Download Research](#)



Webinar

What Higher Education CIOs Need to Know About the 3 U.S. Stimulus Funds

Explore key differentiators and options for how to spend these funds.

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