

Top Technology Trends in Higher Education for 2022

By Glenda Morgan, Robert Yanckello, Terri-Lynn Thayer, Tony Sheehan,
Grace Farrell, Saher Mahmood, Charlie Winckless, Neil MacDonald

Top Technology Trends in Higher Education for 2022

Published 11 February 2022 - ID G00763121 - 27 min read

By Analyst(s): Glenda Morgan, Robert Yanckello, Terri-Lynn Thayer, Tony Sheehan, Grace Farrell, Saher Mahmood, Charlie Winckless, Neil MacDonald

Initiatives: Education Digital Transformation and Innovation

Higher education CIOs leading their institutions in innovation and transformation should use this trend analysis to identify the technology trends driving the global higher education industry in 2022. CIOs should weigh our recommendations in light of these trends as they shape their IT strategy.

Overview

Opportunities

- **Business models:** The growing importance of continuous learning and the growing popularity of alternative credentials is prompting the adoption of new offerings requiring continuing education and workforce development platforms.
- **Learning environments and the student experience:** New models of instruction and the need for new forms of support for students are driving investments in classroom technology, specialized web-conferencing tools, tutoring platforms and an increased focus on career support.
- **Operating models:** Zero trust security, robotic process automation and low-code applications provide the opportunity to reduce risk and improve efficiency in operating models.

Recommendations

Higher education CIOs driving digital transformation and innovation should:

- Balance maintaining key systems, while enabling emerging and innovative technologies, by pursuing a bimodal approach and creating a special unit that can explore innovation. This is true even when implementing technologies that are more about efficiency and when changing operating models that affect day-to-day work.

- Create a balanced portfolio of new investments in technology by focusing on tools that address all three categories, including business models, learning environments and student success, and operating models.
- Gain stakeholder buy-in when investing in tools that impact learning environments by crafting a strong and intentional communications strategy around the rollout of new tools.
- Invest in technologies that impact learning environments, the student experience and guarantee stakeholder buy-in by soliciting and responding to key stakeholder input, and crafting a strong and intentional communications strategy around the rollout of the new tools.

What You Need to Know

This research focuses on the technology trends affecting higher education globally. A partner piece, *Top Business Trends Impacting Higher Education in 2022*, focuses on business trends in higher education. CIOs naturally look at how technology can optimize operating models, and new technologies are helping them do this. Increasingly, they are also examining how technology can enhance competitive advantage, support emerging business models, provide new types of learning environments and support the student experience. For institutions to thrive in the current challenging and changing environment, they must become more innovative while improving their stakeholders' experience. It is often technology that will facilitate that innovation.

Trends, such as zero trust security, robotic process automation (RPA) and the growing use of low-code applications will have a broad impact on higher education. Other trends, such as specialized web-conferencing tools, and continuing education and workforce development platforms, may be more circumscribed in their reach. As in 2021, many of the trends in the 2022 list are new, representing a break from years prior to 2021. This is hardly surprising given the tumultuous events of 2020 and 2021, and the challenges and change to which they gave rise.

These technology trends, along with the business trends in *Top Business Trends Impacting Higher Education in 2022*, can be grouped into three categories (see Figure 1):

- **Business models:** Many higher education institutions are being prompted to examine, and potentially modify or change, business models in response to challenges in the environments in which they operate. Changes to business models often require new technologies to support them, such as continuing education and workforce development platforms to enable new types of credentials.
- **Learning environments and the student experience:** Many of the technology trends allow for and support new learning environments with a goal of improving the student experience. New classroom technologies, specialized web-conferencing platforms and tutoring platforms all facilitate learning in ways designed to be more engaging and satisfying for students.
- **Operating models:** CIOs face many challenges in the current environment including funding and staff shortages, as well as an extremely hostile security and risk setting. Technology trends such as zero-risk security, RPA and low-code applications allow CIOs to meet these challenges more effectively and efficiently.

Figure 1: Top Higher Education Business and Technology Trends for 2022

Top Higher Education Business and Technology Trends for 2022

 Business Models	 Learning Environments and the Student Experience	 Operating Models
<ul style="list-style-type: none"> • Enrollment Challenges • International Student Flows • Alternative Credentials • Marketing and Branding • Continuing Education and Workforce Development Platforms 	<ul style="list-style-type: none"> • Classroom Technology • Specialized Web-Conferencing Tools • Tutoring Solutions • Greater Focus on Career 	<ul style="list-style-type: none"> • Zero Trust Security • Staff Retention and Hiring • Digital Transformation Tensions • Robotic Process Automation • Low-Code Applications

Source: Gartner
763121_C

Trend Profiles: [Click links to jump to profiles](#)

Business Model Trends	Learning Environment and Student Experience Trends	Operating Model Trends
Continuing Education and Workforce Development Solutions	Classroom Technology	Zero Trust Security
	Specialized Web-Conferencing Tools	Robotic Process Automation
	Tutoring Solutions	Low-Code Applications

Business Models

Continuing Education and Workforce Development Solutions

Back to top

Analysis by Terri-Lynn Thayer and Grace Farrell

Description:

Continuing education and workforce development (CE/WFD) solutions are purpose-built software designed to support the management of students enrolled in noncredit, non-degree-seeking courses and programs. Courses and programs managed by these platforms can range from personal enrichment to professional certifications. These platforms support the admission, registration and payment for these systems. They feature lightweight admission processes and credit card payment capabilities. They often include functionality for employers and other third parties by providing bulk registration, reservations, contracts and employer portals. Integration with the student information system (SIS), learning management system (LMS) and identity and access management solution (IAM) are typically provided.

Why Trending:

- Higher education disruption, including the shrinking 18-to-22-year-old demographic (in many mature education markets) is driving institutions to seek alternate revenue from new programs targeted at nontraditional students.
- According to Modern Campus, in 2020, 68% of adults considering enrolling in an education program preferred non-degree, alternative programming. ¹

- The pace of change for work is dramatically decreasing the half-life of employee skills, driving both employees and employers to seek additional learning experiences; thus, making continuous learning a growing reality for the future of work.
- Classic SISs don't support the business requirements for these nontraditional offerings especially:
 - Lightweight (or no) admission criteria, application or decision processes
 - Ability to accept credit card payment simultaneous with registering for the course or program
 - Employer bulk purchasing and insight into student achievement and outcomes –
 - Many LMSs provide the functionality to deliver a portfolio of these offerings, but lack the comprehensive administrative features to support nontraditional students
- New SISs that support both nontraditional and traditional programs have been slow to develop, leaving many institutions with no option, but to deploy and integrate distinct, purpose-built solutions to support these initiatives.

Implications:

- More institutions are implementing purpose-built CE/WFD solutions.
- Gartner is seeing significant shifts in this market, which include vendor consolidation and new partnerships between CE/WFD vendors and traditional SIS providers.
- CE/WFD solutions, once implemented, are being used to support other revenue streams within an institution, such as summer camps and conference and event registrations.

Actions:

- Review the roadmap of your existing SIS provider to understand if and when they plan to support these nontraditional programs. Determine if they have partnerships with existing CE/WFD providers. This may influence your plans by, perhaps, influencing your interest in being an early adopter of emerging solutions or tipping the scales toward a partner provider.

- Determine the short- and long-term revenue projections for the programs you plan to manage with this platform. This may be an essential consideration in your vendor negotiations. Unlike traditional SIS solutions, student counts are not always the license metric, your revenue may be a more representative metric of your use of the platform and some vendors may factor that into the costs.

Further Reading:

Higher Education Ecosystem 2030: Planning in the Face of Radical Uncertainty

Learning Environment and Student Experience

Classroom Technology

Back to top

Analysis by Glenda Morgan and Tony Sheehan

Description:

Gartner is seeing greater attention to, and significantly higher spending on, classroom technology in the form of classroom video, audio, presentation and content capture. Many colleges and universities have invested substantial amounts on new classroom technology over the past year, with many continuing to make plans to do so over the next year.

Why Trending:

- Many higher education institutions have shifted to remote synchronous or hyflex models of teaching to satisfy demands for in-person instruction while still accommodating social distancing and students who were unable or chose not to attend in person. ² These models of instruction required significant new investment in classroom technology in the form of, but not limited to:
 - Classroom cameras (including pan-tilt-zoom [PTZ] or PTZ capable) to follow and capture video of instructors and often students in the class, ³ as opposed to fixed-focus cameras, and separate from the web conferencing or lecture capture system used
 - Enhanced audio including beam-forming microphones in the classroom to capture participation by students in the room and share it with remote participants ⁴
 - Increased investment in presentation technologies such as digital whiteboards and document cameras
 - Increased emphasis on synchronous streaming of classes using web conferencing and lecture capture technology
- Many institutions needed to make a lot of new investment for this type of instruction to occur. Institutions have also had to invest significantly in training instructors how to use these classroom designs as they require new approaches and impose a big cognitive load on instructors.
- A considerable amount of the investment in classroom technology over the past year has been fueled by the availability of pandemic-related funding, rather than need.

Implications:

Some of the new spending on this classroom technology was funded by COVID-19-related government infusions of funds. But the investments pose some challenges:

- They have prompted some institutions to consider using a remote synchronous mode of instruction in the longer term, which will have some implications for student learning, student success and what campus might look like in the future.

- Much of this new spending on classroom technology was funded by one-time money related to the COVID-19 pandemic. Classroom technology typically requires maintenance where costs average around 20% of the initial outlay per year. ⁵ The new investments will require ongoing funding, which has often not been allocated by colleges or universities.
- Many of the new classroom designs place large burdens on instructors as they try to manage students in two locations simultaneously, as well as the additional equipment. Some institutions have ameliorated this by assigning classroom assistants to each class. This has the potential to substantially increase classroom costs. ⁶
- As normalcy returns, there are additional questions about whether instructors will choose to keep teaching in remote synchronous or hyflex modes, as they can be difficult to do well. This may mean that the equipment in some of these classrooms will not be fully utilized.

Actions:

- Retain balance in your classroom technology portfolio and keep classroom technology budgets sustainable by not overinvesting in synchronous capable rooms. In the medium term, most institutions are likely only to need a few of these rooms per academic building. Temporary needs could be addressed by mobile or portable solutions.
- Ensure that active learning and participation by all participants is fully captured by paying close attention to audio quality as you build out new classroom configurations. This is especially true for learning spaces that will support synchronous remote instruction.
- Seek ways to reduce the cognitive load on instructors using newly equipped classrooms by standardizing equipment as much as possible.

Specialized Web-Conferencing Tools

Back to top

Analysis by Tony Sheehan and Glenda Morgan

Description:

Following the initial pandemic-induced pivot to online teaching for learning continuity, levels of student engagement were recognized as undermining teaching and learning quality. In response, institutional use of established web-conferencing solutions has expanded, but higher education has also seen an influx of specialized web-conferencing solutions with sector-specific features to support more collaborative synchronous teaching.

Why Trending:

- Higher education needs for synchronous hybrid and online teaching have created strong demands for technologies to enhance screen sharing, live lectures, whiteboarding, discussion, polls and group activities.
- Synchronous, fully web-based teaching has the potential to be more effective than dual mode or hybrid teaching. Visibility, interactivity and breakout rooms can be easier to deliver with less facilitation and technical support. ⁷
- Institutions have leveraged both the technologies available within their LMS ecosystem and also explored specialist web-conferencing platforms such as Webex and workplace collaboration tools such as Microsoft Teams and Zoom.
- Demands for sector-targeted functionality (such as grading, group management and assessment to support learning) have led to the development of education-specific features across many platforms. However, specialist web-conferencing platforms geared to education, such as Class Technologies and Engageli, have also emerged. These are being heavily marketed and have attracted significant levels of investment over the past year. ⁸
- Individual preferences and social norms within web-conferencing environments are still evolving. The large volume of visual cues and distractions can reduce effectiveness, and any misalignment of image and voice can also undermine effectiveness. ⁹

Implications:

- The pandemic has helped web conferencing to evolve from an occasionally used tool to a key enabler of the education experience. Multiple platforms are now available with similar integrations to core systems such as the LMS, and with similar ability to, for example, share screens, poll learners, and launch and manage breakout rooms.

- New platforms designed for education may offer additional functionality. In particular, this includes visualization (such as table seating arrangements) and management of activities and content in breakout rooms. The ability of faculty to fully leverage such features, however, remains variable. Not all faculty are yet embracing core functionality of online learning design and web conferencing, let alone demanding more.
- There are risks in assuming a novel technology can compensate for weaknesses in pedagogy and learning design. Evaluation of teaching needs and evolving student experiences should define product selection in the near term.
- Reliance on exclusively synchronous classroom delivery must also be questioned. Designing classes with a balance of synchronous and asynchronous elements may both enhance student engagement and allow a broader range of technologies to be successfully leveraged.
- Although specialist education players will continue to build features (like streamlining breakout room activities), the parallel evolution of mainstream web-conferencing vendors may well provide sufficient functionality for faculty in the near term. Major vendors provide the additional advantage of familiarizing students with tools that will be used in the workplace, rather than relevant purely within education.

Actions:

- Avoid technology-push adoption of web-conferencing solutions by evaluating learner needs, faculty teaching preferences and the effectiveness of current systems as part of wider blended learning strategy review.
- Encourage better teaching practice by consolidating web conferencing systems and cultivating a faculty community of practice to share lessons learned and good practices.
- Ensure all students are able to learn from web-conferencing sessions by providing recordings of sessions by default within the learning management system.

Further Reading:

Hype Cycle for Higher Education, 2021

Blended Course Playbook

Tutoring Solutions

Back to top

Analysis by Saher Mahmood

Description:

Tutoring solutions are online marketplaces where learners can seek one-on-one or group tutoring from private tutors from around the globe, to meet and supplement their learning requirements.

Why Trending:

- Tutoring software has been around for more than a decade, but the demand is surging post-COVID-19. Instructional continuity was different for different institutions and spiked the demand for online tutoring to close gaps in learning. The demand continues to grow as comfort with digital technology increases.
- Tutoring can be available on-demand or scheduled, and offers flexibility to be consumed live, asynchronous as recorded lectures across time zones or as written responses to specific questions. Payment is usually on a per-use basis or via a subscription model.
- Most platforms cover K-12 (Vedantu) or higher education (Chegg) subject needs, especially for standardized examinations with many like Brainfuse, Smarthinking and TutorMe covering both.
- Science, technology, engineering and math (STEM) and languages are the most popular subjects, followed by tutoring on standardized examinations. Many providers also offer professional certification courses and/or short capsule courses, expanding their audience beyond students to the corporate workforce and general public. ¹⁰
- Government support for digital infrastructure including bandwidth and devices has facilitated increased access to such portals, especially in developing countries. Asia/Pacific (APAC) is the fastest growing market, with China and India leading in consumption. ¹¹

- Increased access via mobile devices coupled with vernacular and self-paced support in remote areas has made them a favorable supplement to formal education, particularly in developing countries, many of which faced challenges in pivoting to online education. ¹²
- Data suggests that the online tutoring market is expected to grow by over \$153 billion at a compound annual growth rate (CAGR) of 16% between 2020 and 2025. ¹² The market has an equal mix of large global providers such as Tutor.com and Wyzant, as well as smaller, regional providers such as RareJob, which specializes in the Japanese market. ¹³

Implications:

- The one-to-one instruction means students learn in ways tailored to their personal pace and requirements. This potentially addresses post-COVID-19 concerns around “learning loss.” ¹⁴
- The popularity of online tutoring can be seen in growing partnerships. Platforms like TutorMe have partnered with universities, (often with direct integration with LMSs), libraries and course providers. ^{15,16} The additional insights and data that can be gleaned from learner activity and responses on these platforms is positioned as an advantage that educators can seek through these partnerships.
- As solutions mature, we are beginning to see the use of artificial intelligence (AI) to supplement personal tutoring to reduce wait time and suboptimal user experience. A good example is doubt resolution products, which address common student queries without human intervention. ¹⁷
- Amid general concerns around increased potential for cheating with the switch to online, many tutoring solutions that offer the option of time-bound written response to questions have come under scrutiny for breaching the fine line between tutoring and cheating.
- Many people, worldwide, took to online tutoring jobs as supplemental income. For example, those with strong advantage in a language or location (such as English speakers in the Philippines) cashed in on the increased demand from students and professionals in other regions (like China, and Japan) amid the lockdown. ¹³

Actions:

- Prepare for future adoption of tutoring solutions at your institution by exploring the market, and identifying the major vendors partnering with institutions, their licensing models and technology requirements. Work with academic leaders to run focused pilots with a solution to get a clear understanding of benefits and implications.
- Establish a clear understanding of the quality and volume of learning data that can be accessed through such partnerships by discussing frequency, formats and requisite integrations.

Operating Models

Zero Trust Security

[Back to top](#)

Analysis by Bob Yanckello, Charlie Winckless, Neil MacDonald

Description:

Gartner has adapted the National Institute of Standards and Technology (NIST) definition of “zero trust” to the following. “Zero trust is a security paradigm that replaces implicit trust with continuously assessed, explicit risk and trust levels based on identity and context supported by security infrastructure that adapts to risk-optimize the organization’s security posture.” ^{1 8}

Why Trending:

When institutions moved to primarily online learning and remote work as a necessary response to the pandemic, they extended their trusted network via VPN and became easy targets for attackers. In most instances, university networks were not designed for such scale or the support of such a modern business model. They were unable to defend against attacks found in environments where both users and data may be outside of any physical office or network perimeter. ¹⁹

- Gartner inquiries on this topic of zero trust network access (ZTNA) have grown 127% in the first four months of 2021, as compared with the same period in 2020. ^{2 0}
- From 14 August 2021 to 12 September 2021, educational organizations were the target of over 5.8 million malware attacks, or 63% of all such attacks. ²¹
- Zero trust principles can better position institutions to secure sensitive data, systems and services across increasingly dispersed and complex enterprise environments. ²²

Implications:

The fundamental purpose of zero trust is to understand and control how users, processes and devices engage with data; as zero trust principles will increase the resiliency against cyberattacks. This means that the likelihood of a business-impacting event (such as ransomware or a data compromise) can be reduced, with an associated reduction in risk to the institution.

Identity is a critical aspect of any good zero trust model. Leveraging context and identity (“contextual identity”) as the foundation for access decisions is a key factor for ensuring granular access policy enforcement based on user context and data sensitivity. This helps to limit the impact any security incident can have on an organization. ²³

The future of higher education will be hybrid, so a modern learning and working environment has to be flexible and adaptive. It must support remote learning, remote workers, remote data (such as infrastructure as a service [IaaS]) and remote applications (such as SaaS). The architecture should restrict access to the minimum required, but it must be flexible enough to support an increasingly interconnected university. It must adapt to the needs of the business while allowing the institution to thrive despite the threats enabled by being so connected.

Actions:

- Start with Identity by ensuring your Identity infrastructure is federated and provides a consistent source of truth.
- Prior to embracing a zero trust model, identify the strengths and gaps of your current security plans by using a variety of frameworks (e.g., COBIT, ISO/IEC 27001/27002, ITIL and NIST) or third-party providers for assessing the current state of your program.

- When designing a zero trust approach:
 - **Define mission outcomes** – Derive the zero Trust architecture from institution-specific mission requirements that identify the critical data, assets, applications and services (DAAS).
 - **Architect from the inside out** – First, focus on protecting critical DAAS. Second, secure all paths to access them.
 - **Determine who/what needs access to the DAAS to create access control policies** – Create security policies and apply them consistently across all environments (such as LAN, WAN, endpoint, perimeter and mobile).
 - **Inspect and log all traffic before acting** – Establish full visibility of all activity across all layers from endpoints and the network to enable analytics that can detect suspicious activity. ²⁴

Further Reading:

Quick Answer: How Do Access Management and Zero Trust Network Access Tools Work Together?

Architecting an Agile and Modern Identity Infrastructure

Quick Answer: How to Explain Zero Trust to Technology Executives

Robotic Process Automation

Back to top

Analysis by Terri-Lynn Thayer

SPA: By 2026, RPA and AI will improve the student experience while reducing staff and faculty by over 20% per full-time student.

Description:

RPA is a productivity tool that allows a user to configure one or more scripts (which some vendors refer to as “bots”) to activate specific keystrokes in an automated fashion. The result is that the bots can be used to mimic or emulate selected tasks (transaction steps) within an overall business or IT process. These may include manipulating data, passing data to and from different applications, triggering responses or executing transactions. RPA uses a combination of user interface interaction and descriptor technologies. The scripts can overlay on one or more software applications.

Why Trending:

Universities are increasingly turning to RPA solutions to automate back-office, hybrid and student-facing processes with the objective of reducing labor, cost and human error by reliably performing high-volume human tasks. Often the objectives and outcome include an improved student, faculty and staff experience. ²⁵ RPA is converging with other technologies such as AI, analytics, natural language processing (NLP), machine learning, low code and optical character recognition (OCR) into hyperautomation solutions. The 2022 Gartner CIO Agenda Survey found that 11% of higher education respondents plan to increase their investment in hyperautomation in the coming year (see 2022 CIO and Technology Executive Agenda: A Higher Education Perspective).

Implications:

- Market offerings are rapidly increasing. Multiple products and vendor promises can make technology selection difficult.
- Departmental and siloed approaches may result in redundant and overlapping technologies on campus, requiring governance to ensure the tool portfolio is rationalized and the optimal tool for each task is employed.
- Extensive business process analysis will be essential. This will require business analysis skill and the availability of sufficient data to identify patterns and train the automation solution.
- Institutions implementing RPA typically progress through a series of challenges from, “How do I get started?” onto issues of “scale” and how to “prioritize” what becomes an onslaught of opportunities and requests.

Actions:

- Define desired business outcomes and identify process redesign opportunities prior to choosing and applying RPA (or any other hyperautomation technologies).
- Track the business value of automation by assessing the resulting impact on:
 - Revenue
 - Cost saving
 - Cost avoidance
 - Error reduction
 - Increased compliance and risk reduction
 - Increased student, faculty and employee satisfaction

Further Reading:

Predicts 2022: Education — Review, Refocus, Rebuild

How to Select the Right RPA Service Provider to Achieve Success

Infographic: Which Technologies Should You Use for Hyperautomation

Low-Code Applications

Back to top

Analysis by Bob Yanckello

Description:

“A low-code application Platform (LCAP) is used to rapidly develop and deploy custom applications by abstracting and minimizing hand coding. At a minimum, an LCAP must include low-code capabilities (such as a model-driven or graphical programming approach with scripting) to develop a complete application consisting of user interfaces, business logic, workflow and data services.”²⁶

Why Trending:

Institutions can leverage LCAPs for their increased application development productivity with reduced skill set requirements. LCAPs provide and support UIs, business processes and data services, which are critical components of a modern and composable education technology platform in higher education.

Higher education is interested in LCAPs for rapid application development and democratizing application development. Low-code capabilities can assist with many automation and application needs across the organization and provide enterprise backing for use cases such as:

- Citizen development
- Business unit IT
- Enterprise business processes
- Composable applications
- SaaS applications

Empowering employees with low-code development technology (i.e., citizen development) is part of the digital workplace expectation for supporting modernization of both customer-facing and internal business process applications.²⁷ The present and future depend on holistic and collaborative delivery of digital products and services by joint IT and business delivery teams, and on the elimination of separate enterprise IT and “shadow IT” operations. Low-code development is a pivotal enabler for collaboration across the institution. Low-code application platforms are attractive and growing in use because they help address the:

- Need for increased productivity and output of application modernization
- Widening gap between availability and demand for IT development skills
- Necessity for IT and the institution business offices to align closer and cooperate in quick, continuous and agile development practices

Implications:

The low-code movement continues to gain momentum as institutions continue to scale online learning, remote work and introduce new digital capabilities in response to the evolving pandemic. ²⁸ The demand for digitizing business processes and the demand for technology staff continue to clash and strain the IT organization's ability to keep up with the demand to improve enterprise business capabilities. ²⁹ Although typical coding requires a rudimentary knowledge of a computing language, low-code tools and platforms simplify development with easy-to-use, drag-and-drop structures that can easily enable non-IT staff or students to create digital processes and services. Leveraging LCAPs enables institutions to:

- Effectively manage their capacity for change
- Deploy modern and collaborative development tool standards across the organization
- Scale automation and process improvements quickly and easily at an affordable price
- Enable citizen developers while allowing IT departments to centrally coordinate and focus on other operational needs like systems administration, complex integrations or security

Actions:

- Assess the institution's need to rapidly renovate or compose business processes by engaging with business teams to understand their automation needs and identify to what extent these tools can improve their responsiveness and productivity.
- Deploy low-code tools and platforms to mitigate shadow IT risks. This can be done by working with business unit leaders to solicit citizen developers, establish trust, and define an enterprise approach to support optimized business practices, new skills development and a community of practice (CoP) across the institution.

Changes Since Last Year

As with last year (2021), many of the trends in this year's list are new. This represents a break from previous years where there tended to be a substantial amount of carry-over from one year to the next. But the pace and extent of change is hardly surprising, given the events of 2020 and 2021 and the challenges and change to which they gave rise.

Nine trends from 2021 are no longer on this list. Trends such as remote proctoring, the move to the cloud, chatbots, cross-life cycle CRM and faculty information systems have become widely adopted and part of business as usual. The trend of the COVID-19 campus has not gone away, but the practices associated with it have been adapted and absorbed into the way campuses are and will be run. Instead of seeing a trend around cyberthreats as we did in 2022, we are seeing more of a trend around the response to these threats in zero trust security. In 2021, we saw a strong trend around hybrid classrooms, which has continued, and even intensified, but increasingly, the focus is on equipping the classrooms with technology – for better or worse. The classroom technology and specialized web-conferencing tools trends have, thus, replaced the trend of hybrid classrooms.

Finally, in 2021, we saw a burst of interest in virtual experiences associated with trying to bring engagement to remote experiences. Gartner still sees some activities in this space, but they tend to be isolated and in many cases, short-lived, especially outside of very focused applications such as virtual campus tours or medical school applications. This trend is not in the 2022 list.

Evidence

¹ The State of Continuing Education 2021, Modern Campus.

² Spotlight on Brandeis University – 8 AV/IT Tech Directors Share: Fall 2021 – The Hybrid/HyFlex Higher Ed Campus, AV Network.

³ Spotlight on Indiana University – 8 AV/IT Tech Directors Share: Fall 2021 – The Hybrid/HyFlex Higher Ed Campus, AV Network.

⁴ San Diego State U Upgrades Microphones for Hybrid Learning, Campus Technology.

Shure's Microflex Ecosystem Empowers Hybrid Learning, Installation.

⁵ State of Facilities in Higher Education, Gordian.

⁶ Podcast: Students Supporting Faculty in the Shift to Hybrid Learning, Campus Technology.

⁷ The Effects of COVID-19 on Learning Space Rating System Scores, EDUCAUSE Review.

⁸ Softbank Leads a \$105m Investment in Class, an Edtech Startup That Enhances Virtual and Hybrid Classrooms by Adding Teaching and Learning Tools to Zoom, Tech Startups.

Engageli Nabs \$33M More for its Collaborative Video-Based Teaching Platform, TechCrunch.

⁹ How to Combat Zoom Fatigue, Harvard Business Review.

Nonverbal Overload: A Theoretical Argument for the Causes of Zoom Fatigue, Technology, Mind, and Behavior, American Psychological Association.

¹⁰ Top Tutoring Subjects in Demand, Modaris.

¹¹ Online Tutoring Market Size to Increase by \$153.07 Billion, PR Newswire.

¹² BYJU'S IAS 2022 (Pre & Mains) Online Classroom Program (Hindi), BYJU'S.

¹³ Covid-19: Online Tutors Boosting Incomes as Demand Surges Due to Coronavirus Lockdowns, The Star.

¹⁴ Dealing With College Students' Learning Loss: The Key Podcast, Inside Higher Ed.

¹⁵ Free Virtual Tutoring for Seattle Students Now Offered by The Seattle Public Library, The Seattle Public Library.

¹⁶ McGraw Hill and TutorMe Partner to Offer Free On-Demand Tutoring to Millions of College Students, McGraw Hill.

¹⁷ Doubt Resolution, Embibe.

¹⁸ Let's Talk About HyFlex: Fall 2020 Classroom Solution and Beyond, rAVE [PUBS].

Zero Trust Architecture, National Institute of Standards and Technology (NIST).

¹⁹ Logistics of Online Learning Offer Challenges for Higher-Ed, Govtech.com

The Coronavirus Has Pushed Courses Online. Professors Are Trying Hard to Keep Up, The Chronicle of Higher Education.

As Coronavirus Concerns Rise in US, Colleges Look Online for Continuity, Higher Ed Dive.

EDUCAUSE QuickPoll Results: Post-Pandemic Plans for Remote Work, EDUCAUSE.

²⁰ Best Practices for Implementing Zero Trust Network Access

²¹ Cybercriminals Use Pandemic to Attack Schools and Colleges, The Conversation.

²² Embracing a Zero Trust Security Model, National Security Agency.

²³ Quick Answer: How to Explain Zero Trust to Technology Executives

²⁴ Embracing a Zero Trust Security Model, National Security Agency.

²⁵ How Universities Are Using Robotic Process Automation, EY.

²⁶ Magic Quadrant for Enterprise Low-Code Application Platforms

²⁷ Low Code Delivers High Productivity, IDG Connect.

²⁸ Research: Increased Use of Low-Code/No-Code Platforms Poses No Threat to Developers, TechRepublic.

²⁹ Low Code Platforms Begin Their 2021 March, TechMarketView.

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

2022 CIO and Technology Executive Agenda: A Higher Education Perspective

Predicts 2022: Education — Review, Refocus, Rebuild

© 2022 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. and its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. It consists of the opinions of Gartner's research organization, which should not be construed as statements of fact. While the information contained in this publication has been obtained from sources believed to be reliable, Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information. Although Gartner research may address legal and financial issues, Gartner does not provide legal or investment advice and its research should not be construed or used as such. Your access and use of this publication are governed by [Gartner's Usage Policy](#). Gartner prides itself on its reputation for independence and objectivity. Its research is produced independently by its research organization without input or influence from any third party. For further information, see "[Guiding Principles on Independence and Objectivity](#)."

Business Model Trends

Learning Environment and Student Experience Trends

Operating Model Trends

[Continuing Education and Workforce Development Solutions](#)

[Classroom Technology](#)

[Zero Trust Security](#)

[Specialized Web-Conferencing Tools](#)

[Robotic Process Automation](#)

[Tutoring Solutions](#)

[Low-Code Applications](#)

Actionable, objective insight

Explore these additional complimentary resources and tools for CIOs and other senior technology executives:



eBook
2022 CIO Agenda
Create an action plan to master business composability.

[Download eBook](#)



Roadmap
The IT Roadmap for Digital Business Transformation
Avoid pitfalls and lead smart, effective digital transformations.

[Download Roadmap](#)



Template
IT Strategic Planning Guide
Turn strategy into action with this one-page IT strategic planning template.

[Download Template](#)



Webinar
The Gartner Top Business & Technology Trends for Higher Education in 2022
Learn the key trends impacting higher education institutions.

[Watch Now](#)

Already a client?

Get access to even more resources in your client portal. [Log In](#)

Connect With Us

Get actionable, objective insight to deliver on your mission critical priorities. Our expert guidance and tools enable faster, smarter decisions and stronger performance. Contact us to become a client:

U.S.: 1 844 424 3279

International: 44 (0) 3301 620 681

[Become a Client](#)

Learn more about Gartner for IT Executives

gartner.com/en/information-technology

Stay connected to the latest insights

