

This a unique opportunity for education to expand accepted teaching and learning practices, improve access to education, and scale digital transformation in response to the challenges presented by the transition to digital, online, and hybrid education.

Reimagining the Future of Education: Continuous Digital Transformation

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Introduction

The impact of COVID-19 on the education industry cannot be overstated. From primary and secondary schools to higher education, plans for digitization and modernization that spanned five to ten years were accelerated into a six-month time frame. Teachers, students, and administrative staff went from a fully in-person and onsite model to a fully remote model. This shift required an immediate focus on the following technology to deliver business continuity:

- » Collaboration tools and connectivity
- » Cybersecurity and device distribution

These technologies and practices provide distance and hybrid learning, support remote workers, and train staff on new systems and processes. Institutions that were already embracing digital transformation (DX) were able to respond more quickly to this disruption as the necessary platforms, connectivity, and staff skills were already in place.

As COVID-19 brings about long-term or even permanent changes, the role of technology in support of educational missions is shifting, with CIOs and IT leaders becoming more involved in organizationwide decision making. Given that education is faced with a future that will be a mix of onsite and remote experiences, digital transformation becomes an imperative to develop new ways to recruit and onboard incoming students, engage students and faculty with different pedagogical methods, and run school operations.

AT A GLANCE

KEY STATS

According to recent IDC surveys of global education respondents:

- » 53% are focused on business continuity and cost optimization; only 24% feel they have stabilized after COVID-19.
- » 40% reported accelerating their digital transformation (DX) efforts.
- » DX provides concrete benefits and real results. 44% of education respondents indicated that DX provides new revenue from new services, while over one-third said it improves student retention and acquisition.

KEY TAKEAWAYS

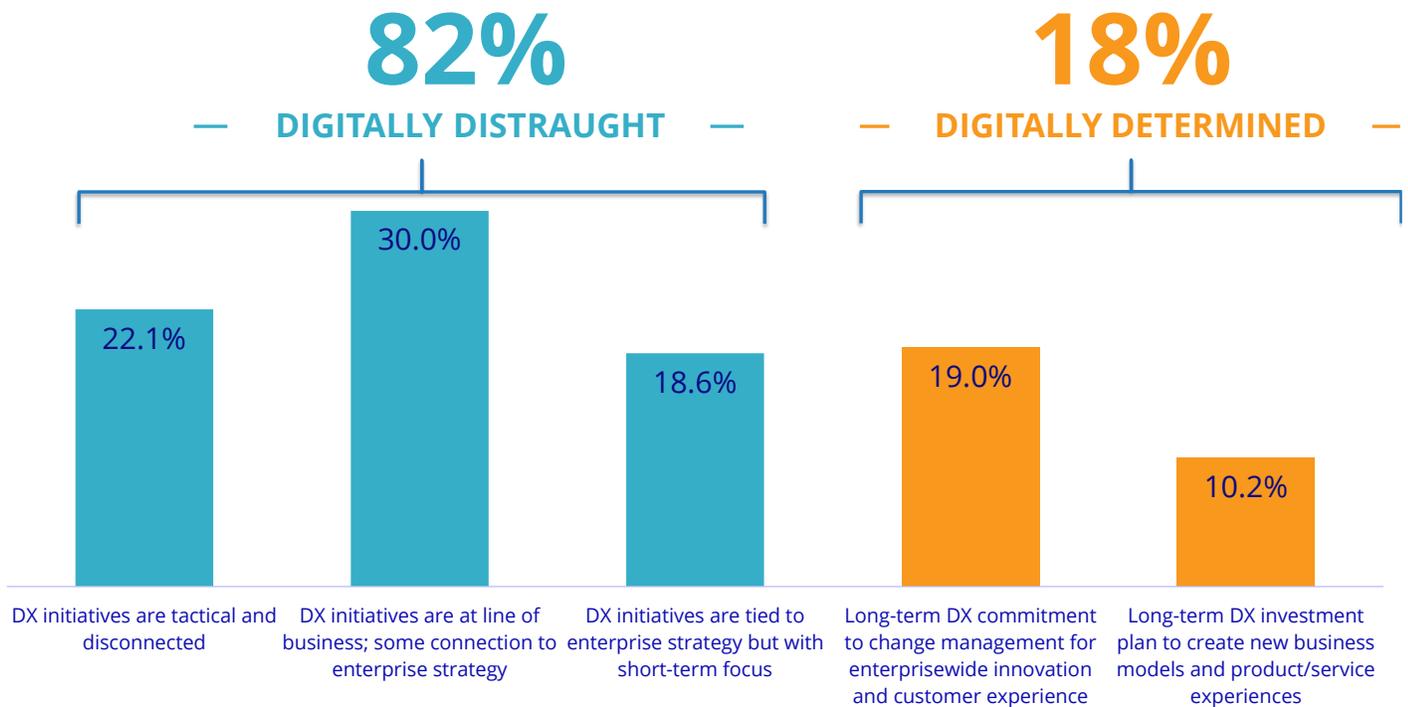
Digital transformation is accelerating; organizations are more open to try emerging technologies, take some risks, and expand core IT. Those institutions that embrace DX will be more resilient as well as more responsive to the new normal.

Global education institutions are not highly digitally determined, meaning they have not taken an enterprisewide approach to embracing technologies and technology innovation. IDC categorizes enterprises as digitally determined or digitally distraught. Eighty-two percent of global education institutions are digitally distraught, meaning they lack an enterprisewide DX strategy; they have legacy processes that are often manual and paper-based; data and information is siloed by departments and disparate systems; and there is generally some cultural and organizational resistance to change (see Figure 1).

FIGURE 1: **DX in Education Is in Early Stages**

Tremendous Opportunities for Growth

Q How would you assess where your organization is with respect to digital transformation?



n = 46 education respondents

Source: IDC's COVID-19 Impact on IT Spending Survey (conducted August 26–September 6), 2020

Education institutions must become digitally determined and embrace the development of new digital capabilities. Institutions around the world report benefits as a result of DX strategy and investment. Benefits include revenue from new and enhanced products and services that can better meet the needs of a diverse group of learners; increased loyalty, which helps maintain funding; and retention and acquisition in higher education to sustain revenue.

Financial strain stems from multiple sources beyond reduced government funding. The United Kingdom, Japan, and the United States rely heavily on private investment and private funding for colleges and universities — with 60% or more of funding coming from private sources. In Japan, the K–12 sector also relies heavily on private funding. Despite these challenges, digital transformation in education must accelerate and continue.

As schools and higher education institutions grapple with DX, while under financial duress, IT investment must be considered strategic and essential to help drive student success and ensure resiliency. While digital transformation can streamline and reduce costs, it is also necessary to drive student engagement and success, which are two keys to maintaining the revenue stream that is dependent upon attracting and retaining students.

Education Industry Definition and Core Attributes

The education industry encompasses private and public as well as nonprofit and for-profit elementary, secondary, and post-secondary/tertiary educational institutions of all sizes. These organizations provide formal learning toward the award of academic degrees, accreditations, and/or certifications, such as a high school diploma or a baccalaureate or university degree. Many institutions of higher education (IHEs) also conduct research and develop products and services for eventual commercial use.

Schools, colleges, and universities are influential members of their communities. Schools for younger children not only teach academic courses but also educate students about cultural and behavioral norms including national or regional songs, games, expressions, foods, language, and social behaviors. They can be community centers for parents, shelters in emergencies, and hosts to many extracurricular activities. IHEs have a social impact and a financial impact on surrounding communities, not only via students as consumers but also through partnerships and work with local businesses, government organizations, and community groups.

IDC defines DX as "a means of applying new technology to radically change and improve processes, improve the customer and employee experience, and deliver value." DX is a journey of large-scale change in which institutions manage and embrace innovation and digital disruption to achieve their mission.

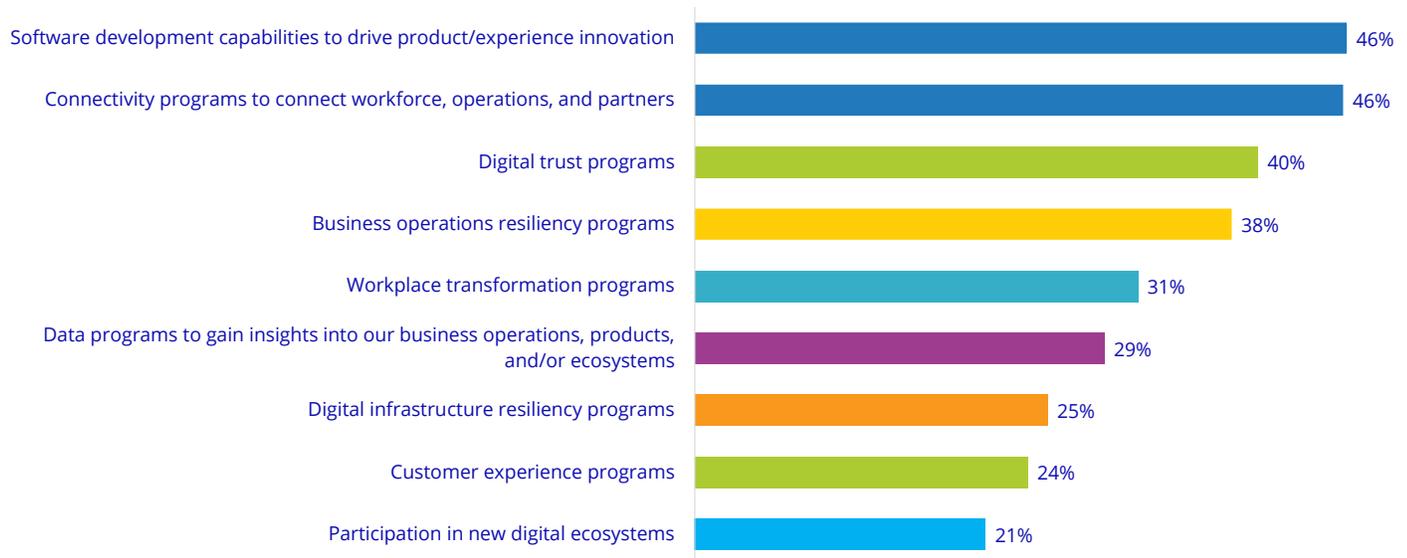
Key Business Priorities: Disruption Brings Technology Innovation Opportunities

IDC has conducted biweekly global surveys on the impact of COVID-19 since April 2020, and education institutions have consistently ranked the top 2 IT priorities as expanding software development capabilities to launch new products and services and providing connectivity programs for business continuity and innovation (see Figure 2).

FIGURE 2: *Education DX Priorities Reflect New Reality*

Hybrid Teaching and Learning Prompts Need for New Services and Expanded Connections

Q Which of the following will be your organization's top 3 priorities for the rest of 2020 and into 2021?



n = 46 education respondents

Source: IDC's COVID-19 Impact on IT Spending Survey (conducted August 26–September 6), 2020

While Figure 2 shows the global trends toward creating new products and services, countries also have variations in their focus areas. For example, in the United Kingdom, the first business priority is improving student engagement, whereas in Germany, the focus is on reducing costs and streamlining processes (source: IDC's *European Tech and Industry Pulse Survey*).

It is worth noting other fundamental shifts in education from a global perspective:

- » Permanent changes to operations because of COVID-19 and their effect in conjunction with other trends. Over 50% of respondents indicated that permanent changes will include:
 - Business models that will expand to include new ecosystems and a diversified supply chain
 - New customer engagement models that will include online services and self-services
 - Remote work, which is expected to be added to HR policies

- Digitally enabled operating models to provide contactless solutions, more automation, video-based collaboration, content sharing, and more transparency
- A change in attitude to try more emerging technologies and take risks (There has been a big shift in education respondents' attitude toward trying new, emerging technologies. Sixty-five percent of education respondents said that their approach to buying technology in the short term is to "be leaders and early adopters of new technology" and "we're willing to take a few risks.")

Education Is Moving to Blended Physical and Digital Experiences

With the process of school openings in a fluid state — for example, 60% of students in the United States are currently learning remotely — and with wide variation across different countries based on the state of COVID-19 control, institutions will have to be much more agile, switching between in-person and remote teaching modes and creating hybrid models that can accommodate both in-person and remote learners simultaneously. This blended/hybrid learning model is a work in progress, and expectations from students and parents will only increase. At the same time, it is very clear that learning and teaching from home is not an equal or equivalent experience for all students or all teachers and faculty.

For students, the rapid adoption of distance and hybrid learning exposes inequities in broadband access and device ownership, while remote teaching and telework requires new digital skills and training for staff and faculty. This has been a big challenge in Japan, where the device-to-student ratio was one computer to every five students in public elementary and junior high schools. There is still a large digital divide in the nation in terms of accessibility, and cultural challenges continue to hinder the widespread adoption of online learning. On the other hand, Australia has been meeting the issue of digital skills head-on with the Digital Technologies Hub, initiated by Australia's Department of Education, an online portal that offers digital learning resources to help teachers and students enhance their skills in digital technologies.

Beyond the fundamentals of learning, schools, colleges, and universities have to address physical space and capacity planning issues as they move to hybrid environments. This will require new technologies to understand student movement, the use of spaces, and other factors that impact public health.

The permanence of a hybrid workforce, with education institutions indicating that 35% of staff will remain hybrid or with flexible work models in the future, means many processes and roles are in flux. This will drive DX strategies, including:

- » Improving distance and hybrid learning, student engagement, and student services, especially in light of ensuring equity and access
- » Rethinking remote teaching and telework and upgrading technology for remote work (from edge to network to collaboration tools)
- » Creating agile and safe school and campus operations using operations automation and remote management, and including COVID-19 management tools (tracing, tracking, social distancing)
- » Developing virtual events as well as recruitment and admissions processes in higher education, including how alumni and corporate/nonprofit partnerships are managed
- » Deployment of multifaceted communication tools and communications automation (CRM tools, crisis communications) to manage the multiple layers of institution-institution, institution-to-parents, student, teacher/faculty, and peer communications

Considering Cisco

Cisco has a strong presence in education, and its core networking and server technology has long been part of the technology stack found in education datacenters. Cisco's expanded portfolio of education-focused products and solutions enables educators, students, and administrative staff to connect from a school/school campus or from home.

Cisco has been working to support workplace transformation and resiliency via solutions that scale across mobile devices, desktop computers, home and small offices, meeting rooms, classrooms, and cocreation spaces with a single collaboration cloud platform for video, calling, messaging, and other services as well as integrations with learning management systems, applications, and devices.

Collaboration and Remote Learning

Cisco Unified Communications (UC) is an IP-based communication system that integrates voice, video, data, and mobility products and applications for a secure communication and collaboration platform used by education institutions.

Cisco Webex works to integrate meetings and team collaboration with devices, including student devices and toll audio, for interactive and remote services, such as classes. Educators can use capabilities such as polling, meeting recording, or self-paced learning options that can be integrated with learning management systems. Webex has a variety of offerings, including:

- » **Cisco Webex** app enables educators and students to teach and learn together or virtually, integrating meetings, messaging, and calling on a single integrated and trusted app. Staff and faculty can learn new systems via online training, cloud-based meetings, and video.
- » **Webex Education Connector** is designed to integrate Webex with learning management systems. The Webex Education Connector enables classroom collaboration, facilitates distance learning, and simplifies administration.
- » **Webex Classrooms** is a new Webex platform designed specifically to enable secure distance and hybrid learning, with a centralized course dashboard for instructors, simple-to-use course scheduling interface, and interactive student engagement approach.

Secure Remote Access

Cisco understands the vulnerabilities of educators and administrators who are working from home and often access sensitive information. This is especially important as recent events have shown that remote devices have been used by bad actors for ransomware attacks and other hacking attempts. Cisco provides secure remote access via **Cisco Secure Remote Worker**, which offers an integrated set of solutions that provides secure access from any connection. **Cisco Duo** uses multifactor authentication to verify user identity, and the device passes security requirements before granting access to IT systems and sensitive student, faculty, and administrative information. **Cisco AnyConnect** enables virtual private network access from any device, at any time or place, to provide secure access to critical IT resources.

Financing Options

Cisco has recognized the strain education institutions are under in the current environment. Cisco offers tools and services to help organizations afford purchasing technology upgrades or new technologies. **Cisco Capital** is designed to provide education institutions with flexible financing solutions for purchasing the latest technologies with no up-front costs and predictable payments. **Cisco Refresh** offers RF Certified Remanufactured Equipment that education IT managers can use to enable new service capabilities while making the most of their limited and often uncertain budgets. **Country Digital Acceleration** is a Cisco program built to expand access with country-level academic and industry partnerships and strategic investments. Currently, Cisco Country Digital Acceleration is involved with 37 countries around the world.

Market Opportunities and Challenges

The challenges facing K–12 and higher educational institutions are also opportunities to consider a vendor such as Cisco, which delivers a broad portfolio of technologies to enable transformation in key areas such as hybrid learning and teaching, remote work, and security and campus operations.

Overall, school districts and higher education institutions are in constrained or precarious financial situations; public funding has been severely impacted by the COVID-19 pandemic, and higher education continues to struggle with enrollment. This situation creates budget challenges for decision makers and will impact some areas of technology investments as institutions reprioritize projects and need areas. However, education buyers also have the opportunity to look at new funding mechanisms offered by companies such as Cisco.

The education market is becoming increasingly competitive. Cisco's competitors also are focused on expanding their solution portfolios in terms of breadth and depth of product capabilities, professional services, cloud computing options, and Internet of Things (IoT) services. There is significant jockeying for market share around collaborative applications and video tools as education buyers look for turnkey collaboration and communications solutions to simplify remote learning and work.

Guidance for Education Institutions

Digital transformation across all aspects of education must stay focused on an incremental, strategic, and accelerated path not only to respond to COVID-19 but also to continue modernization and digitization of education for the benefit of students, teachers, and staff. The pandemic has only forced the inevitable to happen more quickly — that is, an effective response to the needs of and demands from students for flexible, hybrid experiences and virtual and online services as well as changes to administrative functions such as grades and assessments along with changing class formats and building safety.

Technology leaders should have a fundamental role in advising decision makers about how technology impacts education strategy, especially as attitudes shift to take on more risk and experiment with emerging technologies.

Digital transformation must stay focused on a strategic and accelerated path to continue modernization and digitization of education for the benefit of students, teachers, and staff.

About the Analyst



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Ruthbea Yesner is the Vice President of IDC Government Insights. In this practice, Ms. Yesner manages the U.S. Federal Government, Education, and the Worldwide Smart Cities and Communities Global practices. Ms. Yesner's research discusses the strategies and execution of relevant technologies and best practice areas, such as governance, innovation, partnerships, and business models, essential for government and education transformation.

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