Microsoft K-12 Education Technology Framework Capacity Planning Guide

Microsoft

How to use this guide

Our Education Transformation Framework is an effective, flexible platform for education transformation grounded by research. Deep and sustainable transformation happens only with the support from every level – schools. local authorities and national governments.

The Microsoft K-12 Education Technology Framework Capacity Planning Guide is designed to help you ensure you have addressed the learning pathways and engaged in the educator and school leader programs in a manner that will support the capacity of the staff in your school or school system to successfully transform their practice, adopt new technologies and to continue as life-long learners within the system.

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Digital Transformation: Why it's important

Digital transformation is an indisputable force revolutionizing our industries, reinventing our products, redefining our services, and reshaping the way we work. The impact is so dramatic that Klaus Schwab, founder of the World Economic Forum, has dubbed it the Fourth Industrial Revolution. Our students will enter this very different world. So how do we prepare them for it?

The impact of the Fourth Industrial Revolution demands a change in schools and teaching practice. It shows how emerging technologies, including analytics and artificial intelligence, deliver far greater understanding of student capabilities and support new approaches to teaching and learning.

Revolutionizing an entire school system may be a huge challenge, but it is also an exciting opportunity. This opportunity can fundamentally change the lives of children and shift the trajectory of your community.

New ways of working mean new opportunities for teaching

Today's students need real-world skills to thrive in the not-too-distant future. Qualities like critical thinking, collaboration, creative problem solving, self-awareness, self-management, responsible decision-making, and the ability to construct complex solutions. This is true regardless of subject area. Complex skills are as important for artistic, service, and human-oriented professions as they are for more scientific, technological, or industrial employment.

Digital skills are now vital for all

On top of critical thinking and problem solving, the digital skills that were once the province of computer science students are now crucial across the entire spectrum of education. It's increasingly difficult to imagine how your students will succeed without digital facility, be they looking to pursue careers in healthcare or banking, academia or the performing arts. For education systems, this requires a deliberate effort to create conditions where learners can demonstrate and develop these capabilities.

Technology requirements are increasing for all jobs

Today, one in two jobs worldwide require technology skills. But in fewer than ten years, we estimate three in four jobs will require deep and specific technical skills. But what does this mean for our students? The OECD Deputy Director for Education, Andreas Schleicher, has stated that the future world economy will no longer pay for what people know, but what they can do with what they know. In other words, students now need to develop skills in an environment that focuses less on knowledge transference and more on knowledge use. In a world where students have instantaneous, unlimited access to knowledge, it is time to refocus our curriculum, policy, management, and legislation to embrace this skills shift.

With new skills come new opportunities for students

We've seen the rise of Silicon Valley, start-up culture, and virtual working. We now live in a world where the largest taxi company owns no cars (Uber), the largest movie provider owns no cinemas (Netflix), and the largest social media network creates no content (Facebook.) For today's businesses, agility is everything and only the bravest innovators rise to the top. We're also anticipating robotics, automation, and artificial intelligence, which are likely to have profound, lasting impacts on the nature of work, life, and education. If we can equip our students with technological fluency, high-level knowledge skills, and an agile mindset that embraces innovation, creativity and "market disruption," they will be ready to face almost anything.

The key is focusing on student centricity

Daniel Pink, futurist and author of the bestseller, *A Whole New Mind,* believes success in the 21st century depends on having a purpose, a sense of self-efficacy, a growth mindset, and the right tools or access to those tools. To achieve this, Pink argues, the role of the school is to help students identify their purpose, learn how to pursue that purpose, and experience achieving self-defined goals. For learning transformation, student centricity should be the core of your '"disruption."

Key Trends

1. Soft skills come into sharp focus

Social and emotional competencies become fundamental for navigating learning, working, and living.

2. Voice, choice, and agency

Young people want the skills, tools, and opportunity to explore and solve significant problems, choosing and using the people, tools, places, and spaces to achieve their goals.

3. Technology becomes more human

Current and emerging tools amplify the characteristics that make us human, including creativity, empathy, and collaboration. New interfaces support continuous learning feedback, gesture, mixed reality, voice, and touch.

Microsoft Education Transformation Framework

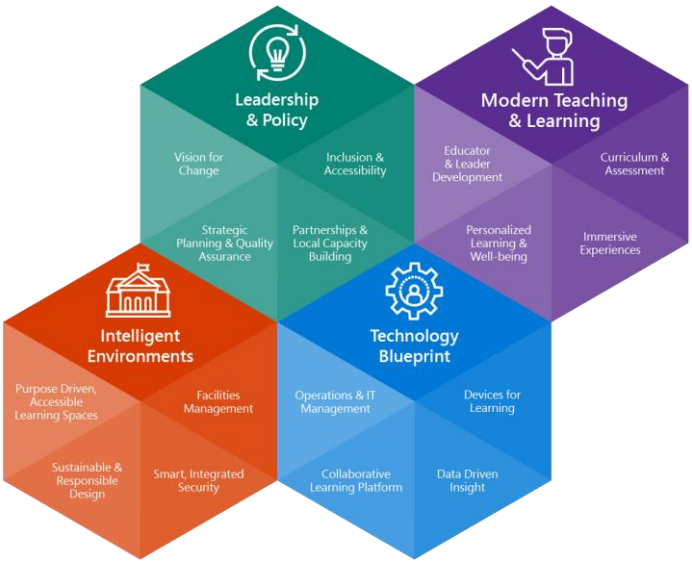
A proven approach to transformation

Transforming an entire education institution is an exciting and critically important opportunity. But it's also fraught with stumbling blocks. That's why we developed the Microsoft Education Transformation Framework —a research- and experience-driven way to fast-track success.

The Education Transformation Framework

To ensure success with global best practices, Microsoft worked with 130 leading policy makers and academics to evaluate studies of schools, school districts, and countries where learning transformation initiatives have made dramatic improvements. By recording and analyzing their evidence and research data and working in consultation with academics, experts, and policy makers, we've identified what works and what doesn't. The most successful transformation projects globally share the same approach—one that's holistic, methodical, and systematic.

We also distilled the key findings and made them available to school leaders everywhere. The result is an Education Transformation Framework grounded in the latest research into effective policy, leadership, and pedagogy transformation. You can quickly see what global leaders are recommending and tap into their best practice and experiences, with links to go deeper if required. Examples of what has worked and what hasn't can help you avoid repeating the same mistakes. Recognizing that school contexts vary, and that change can be "whole school" or "incremental," the framework is open and non-prescriptive, providing a flexible starting point. It is underpinned by a suite of executive summaries, white papers, and provoking questions, all designed to stimulate conversations and provide guidance for managing the critical aspects of change. Visit www.microsoft.com/education.



Leadership and Policy

Vision for change
It's about developing a clear, succinct vision to drive change. By creating a rationale that's shared by leaders and other stakeholders, you can create the momentum for long-term impact.

Strategic planning & quality assurance
It's about taking a program management approach. Start with an effective plan to achieve multiple workstreams. Include quality assurance metrics and establish a strong governance model.

Partnerships & local capacity building
It's about partnering with public and private organizations in a long-term strategy. Partners can help build capacity, whether through digitizing administration and management or upgrading staff skills.

Inclusion & accessibility
It's about supporting social inclusion through making technology more accessible, both through customized interfaces and tools for students with special needs and by embedding supports in teacher training.

Intelligent Environments

Purpose-driven, accessible learning spaces
It's about matching physical learning spaces and furniture with learning goals to provide flexible learning choices. One strategy is to build learning labs and studios next to common, quiet, and collaborative spaces. A low-fi approach is to split existing spaces into specialized zones.

Sustainable & responsible design
It's about creating healthy, thriving environments with plenty of fresh air, light, and natural views to keep learners alert, positive, and engaged while reducing costs and environmental footprint.

Smart, integrated security
It's about using intelligent safety systems to proactively make schools safer and reduce bullying and other threats. Such systems can track people and assets, alerting the school community to safety issues. They can also control access to school facilities dynamically, aiding emergency response.

Facilities management
It's about using the Internet of Things (IoT), the cloud, and data analytics to manage complex school environments more efficiently. Connect digital whiteboards, computers, vehicle fleets, lighting, climate control, parking, security, and more to improve visibility of assets while using automation and analytics to save costs.

Modern Teaching and Learning

Educator & leader development
It's about professional learning that's more inspiring than traditional training. By participating in an active community of practice that shares ideas, successful strategies, and content, educators motivate each other to grow and adapt.

Personalized learning & well-being
It's about new approaches and tools. These help educators unlock students' sense of purpose and inspire them to achieve more. At the same time, students develop important 21st century competencies.

Immersive experiences
It's about taking students vividly outside their own experience. What if they could go virtually into a volcano or walk around a living cell in 3D? Or even build their own medieval village or sub-Saharan ecosystem?

Curriculum & assessment
It's about creating multifaceted learning content for students—and evaluating them on competencies, not content recall. And it's about linking them to the community for education, employment, and entrepreneurship.

Technology Blueprint

Operations & IT management
It's about creating an agile, flexible, and responsive operations and IT environment. Your aim is to put in place a platform and applications that serve the needs of every learner, teacher, and administrator across your educational system or institution.

Collaborative learning platform
It's about enabling the next-level collaboration central to modern teaching and learning. The right platform brings together people, learning content, and insights. This can make the difference between success and failure for teachers and students.

Data driven insight
It's about using evidence-based decision making to transform student learning and your education system. There's no need to turn everyone into data scientists—simply offer easy-to-use tools so they can gauge progress and improve.

Devices for learning
It's about choosing devices that offer superior value and support for learning. Powerful devices can run real-world software, preparing students for life beyond school, and enable rich 3D learning experiences not available on simple web content and apps.

The Language of School Transformation: Positive ways to counteract negativity

If someone says…	Answer like this…
Our roofs need repair and there is no toilet paper in the school restrooms.	Every child requires a safe learning environment where basic needs are met. We are working hard to ensure technology investments save schools money by providing curriculum, assessments, and teacher support at the lowest cost.
Students will break, lose, or steal their laptops.	Students feel respected when they are trusted with such important devices and have exceeded our expectations all over the world for the past 25 years.
Too much screen time is harmful physically and emotionally.	Technology is an essential part of a balanced learning experience, along with all other media, materials, environments, and experiences. Using technology should be optimized, not maximized. Students will be educated on when technology is appropriate and how to use it safely.
Students might look at inappropriate websites.	Learning appropriate digital citizenship is an essential skill in today's world, a skill that teachers, schools and education systems recognize.
Will technology replace teachers or compromise human interaction and relationships?	Technology offers a myriad of ways to amplify good student-centered teaching, and offers channels for richer feedback, communication, and individual interaction among teachers, students, and others. It can also provide detailed knowledge and insights about students that help teachers give faster and better-informed guidance to students.
Can a student choose not to use a device?	As the primary intellectual instrument of our time, a device is something all students will need to use in order to be a successful participant in our learning community.
Students shouldn't take their devices home.	Since the devices represent a deliberate effort to expand learning beyond the boundaries and schedule of school, it is critical that they be used at home. This also helps us extend the formal learning community to include parents, siblings, and other people important in the lives of each student.
We should go slowly and proceed cautiously.	We owe it to our students to close the digital divide as quickly as possible and offer expanded learning opportunities. While we will take the time required to do this properly, we cannot afford to sacrifice another generation of students.
There is no proof that technology helps.	There are decades of experimental and non-experimental, qualitative and quantitative, and meta-analytical studies relating digital technology to a range of learning outcomes and conditions that support learning.

Professional development for educators

Modern teaching and learning makes the most of new and immersive ways to explore the curriculum. It nurtures a growth mindset in students, emphasizing future-ready skills to help them thrive in jobs not yet invented. It's unafraid to use new technologies and new forms of assessment to gauge student progress.

Proficient educators are the driving force in modern teaching and learning. By personalizing learning pathways, they empower every student to reach their potential. To help them build skills, the Microsoft Education Transformation Framework supports them with communities of practice, software, and professional development.

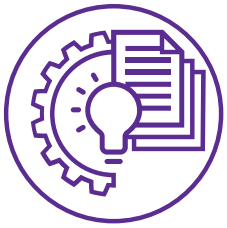
About our Professional Development Pathways

Microsoft Educator Center (MEC)

http://education.microsoft.com/

The Microsoft Educator Center (MEC) is a free, on-demand platform of courses and learning paths available to all educators and school leaders.

- Educators can learn how to use Microsoft technology effectively in the classroom while also earning professional development hours.
- Earn badges, points, and certificates upon completion of courses and learning paths.
- Generate a transcript of your successes to share with others.



Teacher Training Packs

http://aka.ms/teachertrainingpacks

These are also online and free for download. Teacher Training Packs are meant for school leaders or teacher trainers to deliver at their school if they are unable to use a certified Microsoft Global Training Partner.

Global Training Partner Program

http://aka.ms/findatrainer

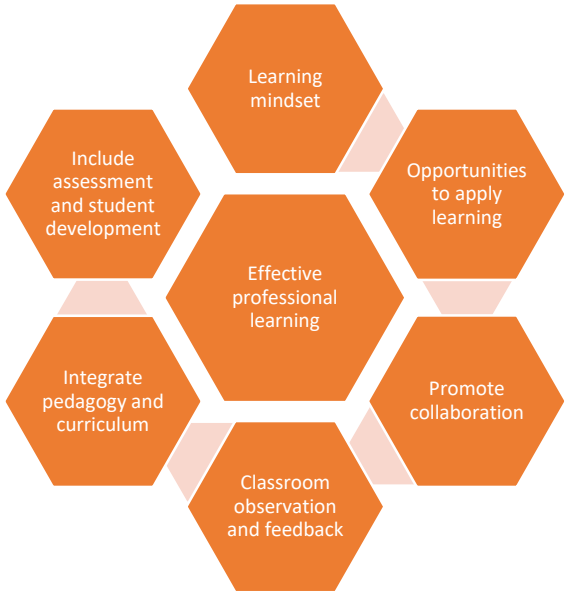
The Global Training Partner Program is for school systems ready and able to make a more long-term, impactful investment in their digital transformation. Microsoft provides access to certified Microsoft Education Training Partners and Learning Consultants. Services include:

- Working with educators and school leaders through in-depth training and professional development sessions that support educator proficiency as technology products and curriculum are being deployed, or, to help educators improve their skills using existing technology.
- Delivering Teacher Academy sessions, including various types and lengths of training sessions aligned to the Microsoft K-12 Education Transformation Framework.
- Global Training Partners offer Microsoft packaged or custom trainings available for in-person and online professional development deliveries.

Why is teacher effectiveness important?

Investing in teacher effectiveness is key to improving student learning. The impact of teacher quality outweighs the impact of any other school education program or policy. In fact, teacher effectiveness is the largest factor influencing student outcomes, outside of family background.

Highly effective teachers continually assess student progress and how their teaching should change to improve it. This is no simple task, and the complexity is often underestimated by those outside the education sector. Teachers require practical experience and an ability to adopt and adapt a range of techniques to innovate and meet the needs of every student presented before them. Fostering a collegiate sense of community through professional learning is a win for all teachers and students. Professional learning is more likely to be effective when it promotes collaboration with peers, classroom observation, and teacher feedback on the job.



Programs for educators

Recognizing innovation

The Microsoft Innovative Educator (MIE) programs recognize global educator visionaries who are using technology to pave the way for their peers for better learning and student outcomes. These are a variety of programs to help both educators who are just beginning this journey, as well as for educators who are leaders in innovative education.

Microsoft Innovative Educator

All teachers can start their journey by becoming a Microsoft Innovative Educator (MIE). MIEs use Microsoft tools in the classroom and have learned the fundamentals of some of these tools. All they need to do is Join the Educator Community and earn 1,000 points to earn their certificate and become a Microsoft Innovative Educator.

Microsoft Innovative Educator Expert

As teachers become skilled at integrating technology into the classroom, they can use self-nomination to join the MIE Expert program. This is an exclusive program created to recognize global educator visionaries using technology to pave the way for their peers for better learning and student outcomes. Becoming an MIEE is one way school leaders can recognize and celebrate the work of educators leading the digital transformation.

Microsoft Innovative Educator Trainer

MIE Trainers are educators, government or district trainers, professional development specialists, or affiliates who want to train educators and school leaders on the effective use of technology in teaching and learning. Complete either a two-day, in-person Trainer Academy or an online Trainer Academy and commit to and report training 100 educators per year to become an official MIE Trainer.

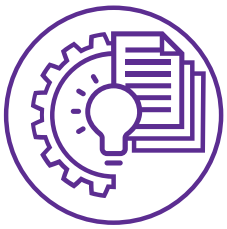
For schools and systems that are beginning their journey

Getting started with Office 365 and Windows

Online Pathway

http://education.microsoft.com/

- Windows 10: Create a world of tomorrow in your classroom!
- Microsoft Forms: Creating Authentic Assessments
- Introduction to Microsoft Teams – the digital hub for educators and students
- Getting Started with OneNote



Accompanying Teacher Training packs

http://aka.ms/teachertrainingpacks

- Course 1: The keys to Office 365
- Course 2: Office 365, from teacher to teacher
- Course 3: Office 365, from teacher to student
- Formative Assessments

Accompanying Global Training Partner options

http://aka.ms/miesessions

- One-day MIE Teacher Academy
- One-day Office 365 Teacher Academy

Ideally, this PD pathway would be integrated into school-wide PD prior to, or within the first month of deployment.

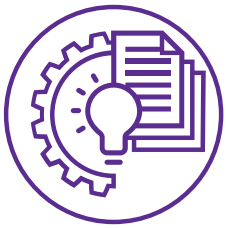
For schools and systems who are building on foundational skills

Level up with Office 365 and Windows

Online (Microsoft Educator Center)

http://education.microsoft.com/

- Flipgrid [new FY20 course]
- Managing Class Workflow with Microsoft Teams
- OneNote Class Notebook: A teacher's all-in-one notebook for students
- Staff Teams for effective leadership and saving time
- OneNote Staff Notebook: Tools for staff collaboration



Accompanying Teacher Training packs

http://aka.ms/teachertrainingpacks

- Course 1: All about Teams
- Course 2: Let's share
- Course 3: Working with students
- Course 4: Assignments and feedback
- Course 5: Leveraging Class Notebook in Teams

Accompanying Global Training Partner options

http://aka.ms/miesessions

- One-day Office 365 Teacher Academy
- One-day OneNote Teacher Academy

2-9 months into school year

Building a community of educators

Educators play many roles and are not always the classroom teacher. Staff working in schools are expected to take on all sorts of new roles. From the teacher-librarian turning the library into a makerspace, to special education aids working one-on-one with students, to general education teachers embracing computational thinking.

School leaders have an opportunity to tap into the specialized skills of their staff to ensure this new generation of student learning needs are met. Reinvent what professional learning looks like, adopt a growth mindset and celebrate the learning successes of everyone in the school.

Tips for creating your own "Expert" cadre

Provide incentives for teachers completing courses on the Microsoft Educator Community.

Recognize teachers who have completed courses during staff meetings. Create a challenge for teachers to earn the most badges.

Hold "Teach Meets" during release days (teacher workshop days) that enable teachers to quickly share (2 minutes or less) how they are implementing technology into their classroom. Make learning fun, relevant, and worthwhile for teachers.

Continue to grow their leadership. As a result you will have a community of leaders within your building who support your vision for digital transformation.

The role of a learning leader

A learning leader focuses on what their teachers know and educating them in their craft so that they can better educate their students. They use data to assess how their students and teachers are performing and create a collegial environment where teachers trust that they can learn from one another. The OECD suggests that the role of the school leader consists of four main responsibilities. The first two responsibilities are consistent with the principal's role as an instructional or learning leader. The third responsibility, "strategic use of resources," includes operational activities consistent with the managerial role. The fourth point is a recent addition, "school leadership beyond the school," which highlights the importance of building relationships with other schools and the community. Due to the expanded role of the principal, distributed leadership—where several individuals share leadership responsibilities—can result in improved organization performance.

While there have been several significant changes to school leadership development in many countries, increased school autonomy and reliance on school networks in recent years has changed thinking in leadership development.

This included a shift in thinking from increasing the organizational capacity of autonomous schools to one that views school leaders as the engine of growth for the system. Hence, issues such as school leader recruitment, deployment, and quality assurance of their development was viewed as key levers for developing system leadership. In contrast to networks, some more traditional courses are being expanded and increasingly contextualized based on theories of enhanced adult learning.

Programs for school leaders

Innovate and grow professionally

Microsoft offers two whole school programs, one for schools getting started with digital transformation and one for schools with a mature whole-school end-to-end approach to transformation with already demonstrated outcomes. Each program focuses on the school leadership team responsible for driving change. Showcase Schools are recognized every year for their outstanding work toward promoting transformational change to empower teachers and students to meet their fullest potential.

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Become a Microsoft School

These schools are starting a journey of digital transformation and exploring how Microsoft solutions can support them. School leaders, register your school.

Become a Microsoft Showcase School

Microsoft Showcase Schools are a global community of schools engaged in innovative change to improve teaching and learning using Microsoft's K-12 Education Transformation Framework. Awarded to schools that have been selected as a Microsoft Showcase School because of demonstrated commitment to embracing technology to transform education and improve learning outcomes for students.

Each program provides access to:

- A global community of professional practice
- Resources and tools to drive improvement
- Professional learning opportunities for leaders
- Materials to help promote school leaders and school events
- Latest news from Microsoft Education
- Opportunities to access free solutions
- Local and international exposure through presenting, case studies, and other professional engagement

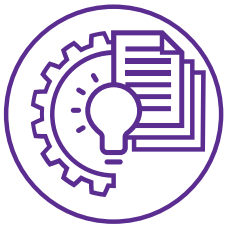
For schools and systems that are beginning their journey

Getting started with Office 365 and Windows for Leadership

Online Pathway

http://education.microsoft.com/

- Microsoft K-12 Education Transformation Coursework for school leaders
- Windows 10: Create a world of tomorrow in your classroom!
- Microsoft Forms: Creating Authentic Assessments
- Introduction to Microsoft Teams – the digital hub for educators and students
- Getting Started with OneNote



Accompanying Teacher Training packs

http://aka.ms/teachertrainingpacks

- Course 1: The keys to Office 365
- Course 2: Office 365, from teacher to teacher
- Course 3: Office 365, from teacher to student

Accompanying Global Training Partner options

http://aka.ms/miesessions

- Microsoft K-12 Education Transformation Academy for school leaders
- One Day Office 365 Leaders' Academy
- Drive efficient school leadership coordination and reduce workload with Microsoft Teams and Staff Notebook (1 – 2 hours)

Ideally, this PD pathway would be integrated into school-wide PD one to two months before deployment, or in the first month of deployment.

Highest success of adoption is when PD begins with the leadership team as they adopt Office 365 and especially Teams to support their collaboration and communication.

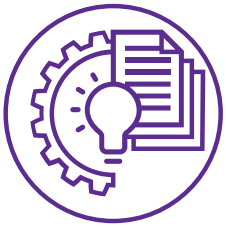
For schools and systems who are expanding access to learning content

Inclusive Classroom

Online (Microsoft Educator Center)

http://education.microsoft.com/

- Inclusive Classroom Foundations Learning Path
- Dyslexia Awareness: In partnership with Made by Dyslexia
- Accessibility Tools: Meeting the needs of diverse learners
- Assistive Technology



Accompanying Teacher Training packs

http://aka.ms/teachertrainingpacks

- Course 1: Mobile Tools
- Course 2: Literacy Tools
- Course 3: Interactive Instructional Tools

Accompanying Global Training Partner options

http://aka.ms/miesessions

- Want to build an inclusive classroom? Learning Tools is your superpower (1 hour)
- 7 Steps to make learning more accessible (1 -3 hours)

Global Training Partner options for School Leaders

- Administrators lead the way: Closing the achievement gap with Learning Tools and more (1 hour)

2-6 months into school year

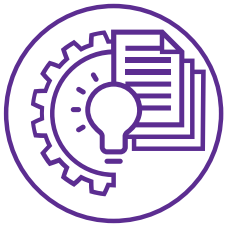
For schools and systems who are deepening student voice and engaged learning

Student Centered Learning

Online Pathway

http://education.microsoft.com/

- Introduction to Microsoft Teams – the digital hub for educators and students
- Getting Started with OneNote
- Problem-based learning
- Amplifying Student Voice



Accompanying Teacher Training packs

http://aka.ms/teachertrainingpacks

- Literacy Tools for Inclusive Classrooms
- Teams – working with students
- Teams – assignments and feedback
- Captivate Students with Sway
- Formative Assessments
- Student Choice Assessments
- Something student reflection (code name Big Mac

Accompanying Global Training Partner options

http://aka.ms/miesessions

- Track it, quiz it flip it, try it
- S'way cool: Elevate student voice across the curriculum

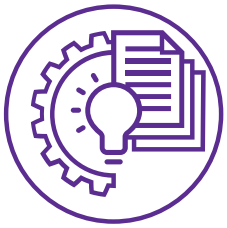
For educators looking for ways to bring creativity into learning

Creativity in the Classroom

Online Pathway

http://education.microsoft.com/

- Digital storytelling with Microsoft Sway
- Introduction to Paint 3D



Accompanying Teacher Training packs

http://aka.ms/teachertrainingpacks

- Course 1: Perceive new pathways with PowerPoint tools
- Course 2: Break into visual storytelling
- Course 3: Dive deeper into visual storytelling
- Course 4: Open up new realities with Paint 3D
- Course 5: Spark ideas with Sway

Accompanying Global Training Partner options

http://aka.ms/miesessions

- Build it, Make it, Know it: Design Thinking with Minecraft Education Edition
- Let's Phygital: Mixing Physical and Digital Technology for Engagement
- S'way cool: Elevate student voice across the curriculum

For schools looking to integrate STEM education into classes and programs

STEM Level 1

Online Pathway

http://education.microsoft.com/

- Computational thinking and its importance in education
- Step up to computer science
- Physical computing for the non-computer science educator
- My Minecraft Journey
  - Lesson 1
  - Lesson 2
  - Lesson 3
  - Lesson 4
- Lego Mindstorms EV3 -- Getting Started
- Problem-Based Learning
- Hour of Code facilitator course

Accompanying Global Training Partner options

http://aka.ms/miesessions

- Minecraft: Education Edition Teacher Academy
- Physical computing and its role in education
- Microsoft Imagine Academy and Certification Training
- Physical Computing and its role in education (3 hour)
- Introduction to Computational Thinking
- Craft and Learn with Minecraft
- CS for Everyone – Beyond Hour of Code

Specialized training provided by Global Training Partners description goes here

Specialized training provided by Global Training Partners

12 hours or 2 days

Course title	Overview
21 CLD	This two-day in-depth workshop is designed for K-12 teacher trainers responsible for delivering professional development training. Attend this 2 day in-depth professional learning experience to understand how to design 21st Century learning opportunities for students. The 21CLD curriculum describes six dimensions of 21st century learning: Collaboration; Skilled communication; Knowledge construction; Self-regulation; Real-world problem-solving and innovation; and Use of ICT for learning, each of which represents an important skill for students.
Design, Redefine, Align Course	This two-day workshop uses design thinking principles to explore how Microsoft tools can transform learning environments. This training is designed for educators who have some working knowledge of Office 365 and the host of Microsoft tools embedded in Office 365. In each transformation module, educators will explore how Microsoft tools can offer solutions to the challenges teachers have chosen to redefine.
MIE Trainer Academy	The 2-Day Microsoft Innovative Educator (MIE) Trainer Academy is designed for teacher trainers and those who are responsible for training educators on the integration of technology in the classroom. The goal is to provide trainers exposure to the many Microsoft technologies and resources that support student-centered learning based on authentic problems and projects while aligning to ISTE Standards for Coaches.
Education Transformation Framework–Leadership	This is a workshop describing and discussing the critical components and conversations needed to drive large-scale education transformation and technology deployment, and the technical solution designs which underpin it. When planning large scale deployments in education is it vital to consider all components of the vision, strategy and solution to ensure ultimate success for the vision of enabling effective use of technology by teachers and learners. Designed from vast experience of deployments globally this workshop describes some of the most commonly faced challenges, considerations and requirements and uses real world experience to provide solutions and thought leadership.

Three-year roadmap for long-term digital transformation

As with any new initiative, developing a roadmap for your digital transformation work requires planning well in advance of deployment. Time is not always negotiable, and schools oftentimes find themselves making big decisions under a short timeframe. The next few pages provide guidance using the Microsoft K-12 Education Framework. This is in no way a comprehensive planning guide. The sections are divided into 3 phases—some schools will take less time, some more. It's just a guide. Assess where your staff and students are currently at and pace your rollout accordingly.

Timeline	Prior to the start of the new school year

Strategy/Tactics	What to do...
Develop a vision for change and strategic plan for digital transformation	When digital tools serve in the purpose of a clear vision focused on specific learning goals, progress happens, and it happens more quickly than in the past. Which digital tools may best serve in your purpose of a clear vision focused on specific learning goals? With your staff or leadership team, ask the following question: "If you had to define success as a system in only 3 words, what would those words be?" • Write those words on sticky notes. • Stick them up on the wall. • Discuss and come to an agreement on the most important words and build your vision that aligns to the school's vision for improved student learning.
Outline a strategic plan and build in quality assurances	Which current teaching practices in your school are effective strengths that can be built upon? Which are areas for growth? Establishing and/or utilizing existing instructional evaluation rubrics to have conversations with stakeholders will help identify next steps. Ensure your desired outcomes are created with community and system input, are realistic, and, where possible, are within the control of the program. • Start with an effective plan • Make sure the strategies you select are flexible, so they can be adapted as needed. • Build local buy-in through participatory monitoring and evaluation, to create the capacity to sustain an effective program. • Plan for monitoring and evaluation from the outset.
Determine the deployment plan for digital tools and professional development	Digital transformation can happen using different models. Determine the right model based on how receptive staff is to this change, available resources, and the pace in which digital tools and the integration of technology into the classroom will occur. • What is the role of the school leader? • Will there be a leadership team that includes all stakeholders? • Will pilot teachers opt into a pilot program? • Is there funding to provide in-building digital transformation coaches? • How do you create excitement through digital transformation champions or experts?
Develop a professional learning plan for the school year	With your leadership team, plan for how you will get staff on board with your vision. What Continuous Professional Development (CPD) opportunities will be provided? • Consider a wide variety of offerings and experiences for growth, from face to face, to professional communities of practice, to online learning experiences. • What are the incentives for educators? Monetary incentives are one way, but also consider tapping into intrinsic motivation. • How will leading the way in the school's digital transformation increase a teacher's social capital? Tap into the emotional and practical reasons why teachers should get on board early (improved student outcomes and increasing efficiency in their work.) • Don't forget to incorporate learning for leadership as well. Running a workshop on the Microsoft K-12 Education Transformation Framework provides the leadership team with an opportunity to begin building out one's own digital transformation framework in collaborative setting.

Timeline	Phase 1 (6-9 months)

Strategy/Tactics	What to do...
Survey educators and leaders to prioritize needs for professional learning and leader development	Professional learning and leader development is on a continuous improvement process cycle in education. • Identify goals for systemic improvement that can be accomplished in an active community of practice. • Determine what new approaches and tools should be implemented to help students develop 21st century competencies and develop a plan for professional learning. • Consider where and how immersive experiences can fit into your current curriculum. • Conduct needs assessment to determine level of usage, comfort with tools, etc. This will help identify cohorts of adopters and types of training needed.
Based on survey results, develop professional learning pathways for educators	Having all teachers take the same courses at the same time is the least effective approach to growing their digital capacity. Create learning pathways to individualize the learning. • Start by having all staff create a Microsoft Educator Center account to access on-demand learning. This allows educators to have some choice in what they learn. • For staff new to Microsoft tools, offer a Microsoft Innovative Educator (MIE) Academy. • For staff already using many of the tools, offer a MIE Trainer Academy or the Design, Redefine, and Align Academy.
Purchase devices for untethered teaching	Identify and test devices (ScreenBeam, Airtame, etc.) to untether teachers. It's so important to provide teachers with devices before students. This allows teachers to become comfortable with what it will take to make a digital shift in his or her classroom. • Determine the capacities of a device necessary for meeting your vision. • Identify students who can test out the durability and capacity of a student device. • Pages 26 and 27 of this document provide a checklist to help identify the right device.
Identify how robust your IT environment needs to be and which devices meet the needs of students	Technology environments are constantly being improved and enhanced. During this phase, take inventory on how agile, flexible, and responsive your current operations and IT are. • How fast is your network operating? What bandwidth do you have/need? • How often will devices be imaged or refreshed? • What applications or learning platforms are needed that are not in place?
Use data to drive insight into action plans for student achievement	Data drives student improvement as educators see gaps and develop strategies to improve learning to meet educational standards. • Do you have tools and systems in place where educators can gauge progress? • Do you have processes in place for developing better classroom practice?
Assess to what degree you are currently providing for inclusion and accessibility	All technology operating systems build in accessibility features that staff are often unaware of nor make use of. These tools for students with special needs are vital to leveling their educational experience to that of all other students. Determine where along the spectrum of implementation you are in this process. Include training of these features in your professional learning and review often.

Timeline	Phase 2 (10-21 months)

Strategy/Tactics	What to do…
Continuous progress monitoring of Leadership and Policy	The Digital Transformation Vision should be clearly communicated and shared by all stakeholders so that momentum and impact are self fulfilling. • Processes should be in place for effective management. Develop monitoring process/practice systems to ensure continued growth is occurring • Monitor that all staff are implementing inclusion and accessibility tools and features to encourage the greatest possible learning outcomes
Develop and prioritize budget for any intelligent environment improvements	Maintaining existing school spaces is a heavy budget priority. What upgrading, adding, or transitioning learning spaces is needed to align to the vision? • What new learning labs, if any, are needed? Or, how can existing spaces be modernized into specialized zones? • Are any environmental improvements needed to promote a healthy learning space? • Are all buildings and classrooms secure to provide optimal student safety? What might be improved? • How are school environments being managed? Is a cloud environment (like Office 365) being used or feasible to implement?
Progress monitoring of Modern Teaching and Learning	Review and refine the professional learning plan developed in Phase 1 to identify success and gaps. What benefits are already being realized? What needs to be reexamined? • Are community of practices thriving and purposeful while developing strategies that meet identified needs? • Identify any additional approaches or tools that should be included. • Monitor immersive experiences. Are STEM, coding, AI, and other hands-on learning being incorporated? • What gaps needs to be filled to align instruction with assessment to promote students being college and workforce ready? • Introduce coaches and/or peer mentoring support to ensure technology is being used to meet learning objectives.
Continue budget planning and priority to meet Technology Blueprint goals	During this phase it is important to determine those goals set in phase 1 are still viable. • Does the learning platform and applications serve the needs of every student, teacher, and administrator? What is still needed? What is not meeting expectations and should be reconsidered? • Is an environment of collaborative learning being developed? Does the learning platform exist to encourage collaboration and communication in the classroom to prepare students for the work environment? • Is data being used to drive academic insight? What tools are still needed? What professional learning is missing to promote change in classroom practice?
Student device model and network	Continual device refresh and management can be a huge budget issue. Is the device refresh cycle feasible and being implemented? • Look at the student-to-device ratio. Is it adequate? • Is budget sustainable and renewable to meet device/network needs? • Is student safety and device security in place? • Is the break/fix and reimaging processes adequate in terms of resources to include personnel?

Timeline	Phase 3 (22-33 months)

Strategy/Tactics	What to do…
Continuous monitoring of Leadership and Policy	Vision and mission of the school(s) should be well communicated and ingrained with all stakeholders. Trust but verify that all policies are in place and working effectively. Continue to adjust as needed to streamline or problem solve for any new issues that arise.
Continuous monitoring of Intelligent Environment and Technology Blueprint	School safety and security measures should be completed or on the timeline for completion. Security will always require monitoring and remaining up to date in today's marketplace. If single sign-on or other security measures have been implemented, monitor and adjust any issues that are preventing processes from running seamlessly. • Trust and verify if a learning environment is deployed that it consistently meets the needs of the students. • Continue to deploy devices for students and teachers. • Stay up-to-date and knowledgeable about new technology and devices that will impact achievement as the refresh cycle will always demand the purchase of new systems, hardware, and devices. • Monitor, deploy, and stay abreast of any accessibility features that are new.
Continuous monitoring of Modern Teaching and Learning	Consider these questions as you plan for and deliver professional learning to all educators. • Are the classroom best practices and strategies a good match for those objectives identified as needing improvement from the data sources available? • Does professional learning address the learning styles of the educators? • Is the knowledge gained from professional learning experience being carried over into the classroom? What effect do these strategies have on student achievement? • Has learning become personalized to the level desired? • Are school leaders still being encouraged to work on their own professional growth? • How has the classroom environment changed for the better?
Develop any new Modern Teaching and Learning opportunities	Professional learning is a continuous process. • Map yearly those experiences educators will need for their individual professional growth. • Continue to provide a wide variety of offerings and experiences for growth, from face-to-face, to professional communities of practice, to online learning experiences. • Each educator should now have an individual growth plan they have developed collaboratively with their school leader.

Driving towards successful implementation

With any large initiative, there are best practices to focus on as well as pitfalls to avoid. The following pages provide suggested best practice recommendations to help guide you in a direction of success when deploying digital transformation initiatives.

Driving towards successful implementation

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Indicators	Description
Set high expectations with clear parameters	Setting high, clear expectations helps orient every aspect of a digital transformation. If you provide teachers and students with limited technology and minimal plans for improvement, they will understand this low expectation and achieve less.
Don't confuse entertainment for engagement	Don't mistake just playing a game or using advice (behavioral engagement) for emotional engagement and cognitive engagement.
Scaffold learners	Provide flexible, temporary support—such as twinning competent students with less confident learners as they learn to use and manage devices, apps, and tools.
Encourage collaboration and teaming	Encourage teachers and students to work together as they discover and share new ways of learning. This can be augmented with technologies, such as Microsoft Teams for impromptu sharing of insights, advice, tips, and tricks.
Measure success and report on it	Use Business Intelligence (BI) software to connect data systems, such as records of attendance, performance, etc., so that you can monitor and report on progress.
Understand the role of data in unlocking a school system's potential	Once you consolidate all your data and implement analytics, you can transform your school with improved results, teaching, and decision-making.
Teach coding	Coding is important because it represents a shift away from computer literacy skills to computer design, science, and engineering skills, which are so vital for tomorrow's world.

Driving towards successful implementation

With any large initiative, there are best practices to focus on as well as pitfalls to avoid. Below are some suggested best practice recommendations to help guide you in a direction of success when deploying digital transformation initiatives.

Indicators	Description
Don't start your transformation program by selecting devices	It's the quickest route to failure. Start by setting your vision and deciding how to achieve, manage, and measure the transformation.
Evaluate devices	Teachers need modern, powerful devices that are fully featured if they are to achieve true digital transformation, not just digital engagement.
Empower teachers	Successful programs hinge on empowering teachers with professional development opportunities and clear policies for student use of technology that are upheld rigorously. Teachers should ALWAYS have access to technology and professional development before the students start to use it.
Understand the role of data in unlocking a school system's potential	It's exciting to consider the potential features of cloud-based apps, such as Office 365. But what a lot of schools do not consider is the data protection they provide. School systems that work to ensure staff and student data is secure from data harvesting are putting in place a standard expected to keep all the data safe. Once you consolidate all your data and implement analytics, you can transform your school with improved results, teaching, and decision-making.
Today's bargain. Tomorrow's expensive mistake	Restricting students to low-cost, but underperforming, technology can seriously undermine their thinking and performance. Education is a critical determinant of student success in life. Don't compromise.
Be ready for a major conceptual shift	Take this as an opportunity to completely reimagine teaching and learning in your school or school system. It is a movement away from viewing computing as a separate subject, or an appealing gadget that can hook in student interest, to a whole new idea of the classroom as a digital space, of the curriculum as a measure of what matters, and of the role of teachers and learners.

Driving towards successful implementation

With any large initiative, there are best practices to focus on as well as pitfalls to avoid. Below are some suggested best practice recommendations to help guide you in a direction of success when deploying digital transformation initiatives.

Indicators	Description
Invest in professional learning for teachers and leaders	Successful programs hinge on empowering teachers and school leaders with professional development opportunities and clear policies for student use of technology that are upheld rigorously. Consider including online courses for teachers' capabilities and interests.
If teachers find technology matches their pedagogy, use it	Teachers need evidence that ICT can make their lessons more interesting, enjoyable, and motivating; otherwise, it doesn't happen.
Empower teachers to be learning leaders	Teachers have close integration with peers, which creates a collegial environment that they trust. School leaders should challenge themselves to not just be instructional leaders but learning leaders alongside teachers. Show willingness to learn and fail in front of other educators. It goes a long way in teacher buy-in on your vision.
Support all pillars of professional learning	• Mentoring and coaching: provide regular classroom observation and feedback. • Lesson and grade groups: teachers improve by observing each other's classrooms. • Teacher research groups: teachers work together to analyze evidence, best practices. • Teacher feedback: teachers improve teaching skills by identifying areas for improvement.
Set up a change management program	When planning your digital transformation, don't neglect a change delivery strategy to inspire, skill, and equip stakeholders for success.
Transformation begins with a strong foundation	Be ambitious about what technology will make possible on your transformation journey. Failures of the past are guideposts for the future, not indications of what is and is not possible.

Practical Guides for digital transformation implementation

The key to a successful digital transformation is to work out the IT details early. This includes ensuring the right tools and devices are deployed, IT support is in place, and Wi-Fi is sufficient throughout all learning areas. It also includes putting into place protocols and expectations for students, staff and parents.

Photocopy, share, and use any of the following pages at will.

Digital Transformation Journey Map for Institutions

Microsoft's Digital Transformation in Education (MDTE) is an approach that unites advanced technical capabilities with powerful educational tools. Underpinned by powerful analytics, this intelligent platform provides a collaborative and engaging environment for users to share knowledge, skills, and resources—enriching the education journey for all.

Credentials Universal access for every leader, teacher, student, and parent to their digital teaching and learning environment, unlocking the platform's potential with a single sign on.	Single identity	A single sign on to all systems and services—without the need for multiple passwords. This saves schools time, offers more control, less downtime, and reduces the burden on IT teams.
	Learning equity	Optimized for universal access across multiple schools; now everyone can start to benefit from market-leading technology, tools, and resources.
	Centralized hosting	Hosted in a sophisticated cloud environment, all data is highly secure. There's no need to maintain multiple environments with complex licensing arrangements and data synchronization issues.
	Governance and reporting	Permission-controlled visibility is enabled for all users within the system, along with improved reporting and analytical capabilities. This allows greater transparency between stakeholders.
	User mobility	Users can transition seamlessly between devices and schools without redirecting their records, resources, and credentials.
	Access	Unlock all the tools, resources, and functionality at your fingertips.
Office 365 A suite of educational tools that empower schools to engage, collaborate, and communicate with the latest technology.	Best-in-class tools	Leverage the most powerful suite of educational tools, including the latest apps like Teams, OneNote, Class Notebook, Delve—as well as old favorites like Word, PowerPoint and Excel.
	Manageable technology	With a single platform supporting many schools, there's no need for individual schools to manage their own applications. Everyone benefits from "build once, available everywhere" system-wide updates.
	Collaboration	Improve productivity and share resources through collaborative working spaces within the school network and beyond. Foster meaningful interactions between users with real-time communications.
	Data visualization	Review and gather insights from rich, system-wide data through Power BI and other analytics tools.
	Storage and security	Unlimited cloud storage is backed by best-in-class security and privacy standards.

Checklist: Student devices

Learning requirement	Recommended
Does it run touch-friendly apps and is the screen big enough for reading? Touch-friendly apps are particularly useful for lower grades but add richness and content choices for older grades.	**Touch screen** Minimum 10"—larger for creative or technical work.
Does it enable students to think? Research shows students who can take notes, sketch, diagram, write math equations, science formulae, and character-based languages build and retain more knowledge, create more ideas, generate more hypotheses, and show better outcomes in general. Inking is critical to thinking.	**Digital pen** Empower students to take notes, sketch, write math equations, create, ideate, diagram, input science formulae and other essential non-linguistic content.
Does it allow students to type up professional assignments? On-screen keyboards can slow students down as they obscure much of the working space on the screen and often don't support special characters for math or science.	**Full keyboard** Detachable is fine, so students can type assignments and see a full screen.
Will it run full software and prepare students for the knowledge economies of tomorrow? There are millions of software applications available through Microsoft and its partner ecosystem including Microsoft Office and Adobe Photoshop. There are 680,000 apps in the Microsoft Store, including Office 365, and tools for both content consumption and creation.	**Ability to run full software** Over 70 percent of job listings globally specifically require skills in full software—as opposed to "apps."
Does it connect to a school network? Often overlooked, it is critical that student devices can connect to share assignments, tasks, and resources.	**Dual-band Wi-Fi** 2.4Ghz and 5Ghz for fast access.
Is it light enough for the backpack? It's important to consider student posture and welfare.	**Aim for under 1.6kg**
Can you connect peripherals for classwork? It's important that students connect to a wide range of printers, graphics tablets, digital microscopes, etc.	**USB port**
Is it school tough? Drops and knocks are inevitable. Look for a device built to sustain rigorous student use, including tough screen, cover, and impact protection.	**Robust case and screen** Solid State Drive (SSD).
Will the battery last a school day? It's important that students and classes are not continually interrupted because devices have run out of charge.	**Battery life** Minimum 6 hours that will last over 3 years (1,000 cycles).
Is the device well managed, updated, and secure? It's important that students are secured and protected throughout the device life cycle so that they can stay up to date with innovations and manage any threats.	**Always up to date** Regular operating system and security upgrades throughout the supported lifetime of the device.

Checklist: Devices for deep learning

A guide for school systems implementing anytime, anywhere learning.

When selecting educational devices, consider how they will support learning. A low-cost device quickly becomes a high-cost limitation if it restricts students to the bare minimum. Students need to be able to brainstorm, develop ideas, think independently, and skill up on the technology that will take them through school and beyond. Windows devices are designed for deep learning and offer parents and schools a choice in price and capabilities.

Which category of device is right for your students?

2-in-1, touch and pen
Grades 3-12

Digital pen is critical to support multi-modal learning. Physical keyboard is essential for reporting and assignments. Full software is critical for unleashing students' creative potential and providing access to uncompromised applications and touch-based apps, allowing learning to continue with or without Internet connectivity.

- ✔ Apps
- ✔ Voice
- ✔ Touch
- ✔ Full software
- ✔ Keyboard
- ✔ Mouse
- ✔ Digitized pen

Laptop
Grades 3-12

They can use a full keyboard, write code, edit videos, use full versions of software, and create games. Minimum for developing job-ready skills, and carrying out meaningful STEM activities.

- ✔ Apps
- ✔ Voice
- ✔ Touch
- ✔ Full software
- ✔ Keyboard
- ✔ Mouse
- ✖ Digitized pen

Basic Tablet
Grades K-2 or as an ancillary consumption device for older students

Basic tablets have significant pedagogical and learning limitations, industry irrelevance, and inability to run full software necessary for employability and deep learning.

- ✔ Apps
- ✔ Voice
- ✔ Touch
- ✖ Full software
- ✖ Keyboard
- ✖ Mouse
- ✖ Digitized pen

Staying safe online guidelines for students

Take these steps to guard Internet-connected devices against someone who tries to break in and impersonate or spy on you, scam you, or use malicious software to destroy or steal your photos, games, contact lists, and other information.

The basics

- Keep all software (including your web browser) current with automatic updating.
- Install legitimate antivirus and anti-spyware software.
- Never turn off your firewall.
- Protect your wireless router with a password and use flash drives cautiously. Microsoft can help you do this: microsoft.com/security/pypc.aspx.
- Think twice (even if you know the sender) before you open attachments or click links in email, IM, or on a social site.
- Use strong passwords, and DO NOT SHARE THEM— not even with your best friend.
- Lock your phone with a PIN to keep anyone from making calls, texting, or accessing your personal information.

Share with care

- Information you share online about yourself or comments you post can become public. Plus, they may remain in search results for years to come, potentially visible to a future employer or college admissions officer. Follow this advice to guard against someone turning your information against you to bully or impersonate you, steal your identity, or scam you.
- Don't share suggestive photos or videos. You lose control of where they go.
- If you wouldn't wear it (say, on a T-shirt), don't share it.
- Make your social network pages private. One way is to look for Settings or Options on the social site to manage who can see your profile or photos tagged with your name, how people can search for you, who can make comments, and how to block people.
- Create profile pages and email addresses that reveal nothing personal and aren't suggestive.
- Be choosy about adding new friends on phones or social sites, or in games.

Connect honestly and carefully

- Don't download copyrighted music, video games, etc.—it's illegal. Plus, pirated files are often used to distribute viruses and spyware without the user's knowledge.
- Don't be an Internet cheater. Don't copy text from the web or buy finished essays or reports.
- Use only social networks that are right for your age, so you'll benefit from their age-based privacy protections.
- Meeting an online "friend" in person can be risky. Protect yourself: always bring a parent, trusted adult, or friend and meet in a busy public place.

Be a real friend

- Stand up for your friends. Cyberbullies are less likely to target someone who has a strong group of friends, and usually stop when a victim's friends rally around him or her. Cyberbullies may be surprised to learn that their actions might be crimes.
- Don't share online personal details of friends and family members without their permission.

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