ISTE STANDARDS
FOR EDUCATORS

A Guide for Teachers and Other Professionals

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About ISTE

The International Society for Technology in Education is the premier membership association for educators and education leaders committed to empowering connected learners in a connected world. Home to the ISTE Conference & Expo and the widely adopted ISTE Standards for learning, teaching and leading in the digital age, the association represents more than 100,000 professionals worldwide.

We support our members with professional development, networking opportunities, advocacy and edtech resources.

What are the ISTE Standards?

The ISTE Standards are *the* standards for learning, teaching and leading in the digital age and are widely recognized and adopted worldwide. They work together to transform education. iste.org/standards

Foreword

Welcome to your guide to understanding, preparing for and adopting the ISTE Standards for Educators.

These standards, created with input from thousands of educators from around the globe, reflect an evolution in the teaching profession and focus on the promise technology has for empowering learning. They provide an informative road map for educators worldwide as they navigate decisions about curriculum, instruction, professional learning and how to transform pedagogy enabled by the thoughtful, purposeful and strategic use of technology.

Learner. Leader. Citizen. Collaborator. Designer. Facilitator. Analyst.

The names of the individual standards are indicative of the role of educators as change agents for learning. They also recognize the role of technology to empower educators as professionals within their organizations who are driving student-centered learning and who need tools and supports to carry out their practice at the highest levels.

Turn to this guide for a detailed explanation of each of the seven Educator Standards; connections to other standards and frameworks that guide teaching practice; indicators for deepening your practice by implementing specific competencies within the standards; and profiles and tips to help you put the standards into practice.

Finally, I express my sincere appreciation to the thousands of educators who contributed to the Educator Standards. Their expertise made all the difference in the creation of this framework to transform teaching.

Richard Culatta
ISTE CEO

Using This Booklet

To help the reader navigate this booklet, the content is organized into three main parts: Part 1: Understanding, Part 2: Prepare, Part 3: Adopt and Implement. It may be useful for you to read all three sections to gain a holistic understanding, or you may wish to focus on the section that meets your circumstances at this moment in time. Part 1 will help you best understand the Educator Standards. A clear understanding of the standards will point you in the right direction going forward. Part 2 has you thinking about how to prepare to put the standards in place in your school. Finally, Part 3 will set you on the right track to implementing and adopting the standards.

Preface

The ISTE Standards are about learning, not tools. They reflect and further a shared goal to bring deep, transformative learning to our students. They were developed for educators by educators. Practitioners use them to guide empowered student learning, and leaders rely on them to advance an innovative vision for learning with technology.

Make the standards work for you

- If you're an educator, use the standards to guide your learning design, inspire your professional growth and advocate for dynamic learning in your school. You can find support and resources at iste.org/standardsforeducators.

- If you're an education leader, use the standards to guide your vision and goals around digital learning and teaching, using them to support systemwide plans – including professional growth, school improvement and technology plans as well as curriculum mapping – or in your LMS or web system. A decision to use in any one of these ways is considered an adoption by ISTE. To help you on your way, access the free report, "Redefining learning in a technology-driven world: A report to support adoption of the ISTE Standards for Students" at iste.org/StandardsReport.

Help ISTE support you

- Educators can download the standards using the permissions process, which contributes to rich data that ISTE uses when designing resources and making the case for the standards. With permissions, you also receive a PDF of the standards, a toolkit to support your use and other resources as they become available.

- Leaders, share your story. Let ISTE know about your decision to adopt the standards so we can support your efforts, measure the impact of the standards and share your success. Take this short survey at iste.org/StandardsSurvey.

Questions, ideas or suggestions? Share them with standards@iste.org.

Contents

Transformation of the Digital Learning Landscape

If you were to compare learning and teaching in the 1990s to learning today, you probably would be surprised by the changes that have taken place. Classrooms today look remarkably different than those with single-file desks filled with silent children listening to a teacher who takes center stage. There have been significant changes since that time, many of which have stemmed from the development of technologies.

There have been two major events in the history of access to learning (Smith, 2017). The first was the creation of Gutenberg's printing press in the 15th century that heralded the arrival of the age of modernity (Eisenstein, 1980). Before that time, only the elite classes had access to the knowledge held in books. The printing press allowed mass production and dissemination of printed materials. The second major event was the development of the internet, which greatly extended access to knowledge by providing an accessible connection to ubiquitous information. This period has become known as the digital age.

During both historic changes in access, it took time for people to fully understand what could be achieved with the emerging technology. Education is no exception, and it has taken time to understand how to leverage digital tools for learning and teaching. During this exploration, some digital technologies were deemed unfit and banned from schools until profound potential was realized. This time of investigation has yielded new evidence about how students learn, and technologies continue to evolve.

Three Shifts in Thinking

The learning journey is evident in reviewing the history of teacher standards for using technology. There appear to be three major shifts in thinking.

In a previous version of the ISTE Standards for Teachers, the excitement was firmly rooted in the potential for digital tools in the hands of educators who knew how to use them. Educators would be taught how to use spreadsheets and word processing tools so they would be ready to use them with their students. It became evident that educators may know how to use these tools, but there was little training in how to effectively apply them for teaching and learning. In the first shift in thinking, the standards were revised to focus on how educators should use the digital tools for learning and teaching.

This was the start of a new direction as educators focused on learning and teaching and how digital tools could be used to enhance that process (Crompton, 2013). This second shift was positive as it moved the focus away from the tool itself. However, this often resulted in replication rather than innovation as worksheets became digital worksheets, dry-erase white boards became digital white boards, and so on. What is the point in using 21st century technologies for 20th century teaching? To advance the potential of their classrooms, educators must go beyond past practices to rethink their teaching methodology as they take advantage of the of opportunities provided by technology.

The third shift in thinking led to the ISTE Standards for Educators. Terms used to describe this new way of thinking include innovation, disruption and evolution. It is innovative as new methods of teaching are developed, disruptive as educators consider approaches and tools that are only available with digital help and evolutionary as we come to understand how these digital tools can be used in the most effective ways for learning.

Learning Evolution

In this transformation, learning boundaries are becoming porous as classrooms are mixing with life experiences. Students can move seamlessly across learning spaces as they gain new experiences and skills, participating as active learners in a world of possibility. Educators are no longer the primary sources of information, instead training students to find and understand information for themselves. Students set goals, unpack problems and determine their own strategies and tools. With this knowledge, students can then accomplish their goals in a variety of ways.

Tech Skills → Learning with Technology → Transforming Learning with Technology

Shifting Spotlight

Within this learning evolution, there has been a shift in focus. Looking back to those early years in education, and even to the advent of the internet and other digital resources, the spotlight was on the teacher and the students were seen as passive receptors. With the second shift, the spotlight moved to how the teacher was supporting the student. In the third shift, reflected in the ISTE Standards for Educators, educators are empowered as valued professionals within their systems, putting the spotlight on students to think for themselves and drive their own learning.

Teacher-Driven → Student-Centered → Student-Driven

ISTE Standards for Educators

Empowered Professional

1. Learner

Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning. Educators:

a. Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.

b. Pursue professional interests by creating and actively participating in local and global learning networks.

c. Stay current with research that supports improved student learning outcomes, including findings from the learning sciences.

2. Leader

Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning. Educators:

a. Shape, advance and accelerate a shared vision for empowered learning with technology by engaging with education stakeholders.

b. Advocate for equitable access to educational technology, digital content and learning opportunities to meet the diverse needs of all students.

c. Model for colleagues the identification, experimentation, evaluation, curation and adoption of new digital resources and tools for learning.

3. Citizen

Educators inspire students to positively contribute and responsibly participate in the digital world. Educators:

a. Create experiences for learners to make positive, socially responsible contributions and exhibit empathetic behavior online that build relationships and community.

b. Establish a learning culture that promotes curiosity and critical examination of online resources and fosters digital literacy and media fluency.

c. Mentor students in the safe, ethical and legal practice with digital tools and protection of intellectual rights and property.

d. Model and promote management of personal data and digital identity and protect student data privacy.

Learning Catalyst

4. Collaborator

Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems. Educators:

a. Dedicate planning time to collaborate with colleagues to create authentic learning experiences that leverage technology.
b. Collaborate and co-learn with students to discover and use new digital resources and diagnose and troubleshoot technology issues.
c. Use collaborative tools to expand students' authentic, real-world learning experiences by engaging virtually with experts, teams and students, locally and globally.
d. Demonstrate cultural competency when communicating with students, parents and colleagues and interact with them as co-collaborators in student learning.

5. Designer

Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability. Educators:

a. Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.
b. Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.
c. Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

6. Facilitator

Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students. Educators:

a. Foster a culture where students take ownership of their learning goals and outcomes in both independent and group settings.
b. Manage the use of technology and student learning strategies in digital platforms, virtual environments, hands-on makerspaces or in the field.
c. Create learning opportunities that challenge students to use a design process and/or computational thinking to innovate and solve problems.
d. Model and nurture creativity and creative expression to communicate ideas, knowledge or connections.

7. Analyst

Educators understand and use data to drive their instruction and support students in achieving their learning goals. Educators:

a. Provide alternative ways for students to demonstrate competency and reflect on their learning using technology.
b. Use technology to design and implement a variety of formative and summative assessments that accommodate learner needs, provide timely feedback to students and inform instruction.
c. Use assessment data to guide progress and communicate with students, parents and education stakeholders to build student self-direction.

PART ONE
Understand

Characterizing the Educator Standards

This section of the booklet unpacks each of the seven standards to outline the meaning behind the text. The standards appear with concept definitions included as footnotes. This will help educators understand the standards, and how to best apply them to their practice. The Educator Standards are organized into two main categories: Empowered Professional and Learning Catalyst.

As you read this section, it is important to know that the standards are made up of the standard statement, which is the initial sentence, and the indicators, which is the additional text listed by number. The standard provides an overarching statement of what educators will be doing if they are effectively integrating technology into learning and teaching. The indicators provide concrete skills sets that demonstrate mastery of the standard.

Empowered Professional

1. Learner

Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning. Educators:

a. Set professional learning goals to explore and apply[1] pedagogical approaches made possible by technology[2] and reflect on their effectiveness.
b. Pursue professional interests by creating and actively participating in[3] local and global learning networks[4].
c. Stay current with research[5] that supports improved student learning outcomes[6], including findings from the learning sciences[7].

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1 **Explore and apply.** Learn about, test and add into regular practice a variety of proven, promising and emerging learning strategies with technology.

2 **Pedagogical approaches made possible by technology.** Shifts in teaching and learning afforded by digital tools and resources, for example, increased personalization and differentiation; virtual collaboration, either in real time or asynchronously; project-based learning; STEAM; authentic projects with experts or real-world data; providing immediate feedback using digital tools; competency-based assessments and new data analysis tools.

3 **Creating and actively participating in.** For example, social media chats or groups; blogs that encourage discussion; virtual webinars, meet-ups, edcamps or unconferences; collaborative asynchronous writing or working teams.

4 **Local and global networks.** Virtual and blended learning communities such as social media groups or chats, virtual PLNs, conferences, meet-ups, edcamps and school-based professional learning communities.

5 **Stay current with research.** Stay current through practices like setting search engine email alerts for specific topics, following thought leaders or key organizations on social media or RSS feeds, attending presentations or webinars and subscribing to edtech research journals or other media sources.

6 **Student learning outcomes.** The knowledge, skills and dispositions a learner should have at the end of an assignment or learning unit.

7 **Learning sciences.** An interdisciplinary field bringing together findings – from research into cognitive, social and cultural psychology; neuroscience and learning environments, among others – with the goal of implementing learning innovations and improving instructional practice.

Educators have the responsibility for preparing students for their future. To do this effectively requires an empowered educator to continually reflect on their practice to take learning to the next level. An empowered educator is strong, confident, curious and willing to take risks. These traits belong to an educator who is also a learner.

The journey as a learner should never end, and educators must continually extend their knowledge, skills and practices to amplify their professional abilities. The learner is always looking for educational opportunities that test their ability to apply research-based best practices.

For educators to instill a love of learning in their students, educators themselves must become learners and demonstrate the empowering process.

The indicators provide specific ways educators can leverage technology to become active learners. The first has educators being intentional in their learning by setting goals. The second is to learn from the vast network of other educators available on the web. The third indicator is to keep up-to-date with research identifying best practices in teaching and learning. Although these indicators provide specific, tangible approaches to meet the standard, there are multiple pathways that can be taken.

Here are examples of how ISTE members work toward this standard:

> Participating in Twitter chats, reading blogs, attending edcamps and engaging in ISTE forums are just a few ways that I connect with educators from around the globe to continue to stay informed about current research and best practices in technology integration.
>
> –Kristin Harrington, Florida

> I always try to stay in touch with new technologies and consider how I could use them to help my students. I participate actively in different Communities of Practice to ensure I extend my understanding and to ensure I'm receiving help when I need it and extending help to other teachers.
>
> –Marc Guerin, Canada

> I am an emerging learner. I would like to move forward into the future of technology with my students and become more familiar with and include the ISTE Standards within both my teaching and learning, so both my students and I are able to benefit and grow. As a professional, I feel it is vital to continue to set goals and explore numerous pedagogical approaches so that I do not become stagnant in my teaching and jeopardize the future development and growth of my students.
>
> –Donna Banks, Pennsylvania

2. Leader

Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning. Educators:

a. Shape, advance and accelerate a shared vision[1] for empowered learning with technology[2] by engaging with education stakeholders[3].

b. Advocate for equitable access[4] to educational technology[5], digital content[6], and learning opportunities[7] to meet the diverse needs[8] of all students.

c. Model for colleagues the identification[9], exploration[10], evaluation[11], curation[12] and adoption[13] of new digital resources and tools for learning[14].

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1 **Shape, advance and accelerate a shared vision.** Efforts that influence change and decision-making. These may include: participating on committees, leading by example, mentoring or collaborating with colleagues to improve practice using technology; advocating for technology use with parents and guardians, administrators and other educators; and voicing thoughts on education technology policy to national, state, district, school or city leaders.

2 **Empowered learning with technology.** Learning in which students are self-aware about their own learning preferences and needs and have significant voice and choice in setting learning goals. Empowered students leverage technology to determine how they will learn, demonstrate competency in meeting their goals and reflect on their learning process and outcomes.

3 **Engaging with education stakeholders.** Local stakeholders to engage in student learning success include district- and school-level administrators, educators, parents or guardians, community members, school board and state or government members, employers, higher education faculty and staff and, of course, students themselves. Connect with external stakeholders by presenting at national or international conferences, engaging with virtual PLNs and thought leaders, and expressing constituent opinions on education technology policy.

4 **Equitable access.** When all students have access to technology needed for learning and to culturally relevant curriculum and resources regardless of race, ethnicity, socio-economic status, gender identity, sexuality, ability, primary language or any other factor that might hinder or unfairly advantage one student over another.

5 **Educational technology.** Devices, apps, webs resources, internet access, technology support and other digital tools used to deepen learning.

6 **Digital content.** Digital content may include open educational resources (OERs); digital media and podcasts; digital curriculum, including culturally relevant curriculum; news and other websites; and digitized original or historical resources such as newspapers, virtual field trips or virtual reality (VR) software and devices.

7 **Learning opportunities.** Educators plan for learning that accommodates differing access levels and individual student needs, for example, providing homework alternatives for students who do not have internet access at home, providing competency-based assessment or other opportunities to demonstrate learning, scaffolding student learning to challenge and support individual students where they are and advocating for an equitable system for all students.

8 **Diverse needs.** For example, learner variability; language skills; technology and internet access levels outside of school; cultural specificity and challenges at home such as poverty, homelessness or instability.

9 **Identification.** Finding new tools or resources to enhance learning by asking or observing colleagues or students, reading related publications and following other educators or thought leaders on social media.

10 **Exploration.** Experimenting with new tools and resources for learning and being open to calculated risk-taking and productive failure for continuous learning.

11 **Evaluation.** Analyzing and reflecting on the value of a new tool or resource for learning and possible improvements for the next time it is used.

12 **Curation.** Thoughtfully organizing resources in a way that is useful and meaningful.

13 **Adoption.** Incorporating selected new resources and strategies into regular practice.

14 **New digital resources and tools for learning.** For example, OERs; apps, websites and other software; hardware tools and devices; networked devices and the Internet of Things; emerging pedagogies around digital tools and resources.

Technology is a powerful tool that can be harnessed to transform learning and teaching. However, there are many who are unaware of what it can do. Educators need to take on the leadership responsibility to share with colleagues how technology can transform teaching and learning. Educators at all levels can be leaders, each with a valuable contribution. When all educators feel equally enabled to lead from where they are, it causes us to rethink who is offered a leadership role and how leadership is performed.

Standard 2 shows how educators can empower their students and improve teaching and learning using digital technology. This leadership can support students to meet the ISTE Standards for Students as they are empowered to become self-directed and self-driven. This standard also includes advocacy and modeling.

Great leaders model the change that they want to see happen in the school.

The standard indicators provide further direction in how to become a leader. The first indicator is about developing a shared vision to provide the driving force behind digital initiatives. The educator has united various stakeholders in shared values and goals that are collaboratively voiced. The second indicator asks educators to practice leadership by advocating for equitable digital access for all. This indicator identifies that there are many types of learners for reasons of physical, emotional, and cultural differences and preferences, and that all learners should have equitable access to all opportunities. The final indicator re-emphasizes the importance of modeling digital resources and tools.

Here are examples of how ISTE members work toward this standard:

> We scheduled and held a variety of parent workshops and community open houses. This allowed us to educate parents and showcase what we were doing in the community. Parents attended with their children, and teacher leaders would share what was taking place in the classroom, highlighting the devices, digital tools and apps in use. We invited everyone, including the state president of the teachers union, the city mayor, local board of education members and education faculty from the local colleges.
>
> –Renee Alford, New Jersey

> When I find a digital tool is really helpful in my classroom, I share the tool and how I use it with other art educators through informal conversations and demonstrations as well as more formal presentations. I display what students have done with the tool, explaining how other educators can implement the tool in their own classrooms. Students in some classes do not always have access to computers, and I advocate for equal access for all students, including those with disabilities.
>
> –Julie Mallinson, England

> I frequently present at state and local conferences to share the powerful impact of technology with other teachers. I also work with other teachers in my district to ensure that the technology we use protects our students and conveys curriculum in an effective and meaningful way.
>
> –Jennifer Smith, Illinois

3. Citizen

Educators inspire students to positively contribute to and responsibly participate in the digital world. Educators:

  a. Create experiences for learners to make positive, socially responsible contributions[1] and exhibit empathetic behavior[2] online that build relationships and community[3].
  b. Establish a learning culture[4] that promotes curiosity[5] and critical examination of online resources[6] and fosters digital literacy[7] and media fluency[8].
  c. Mentor[9] students in safe[10], legal[11] and ethical practices[12] with digital tools and the protection of intellectual rights and property[13].
  d. Model and promote[14] management of personal data[15] and digital identity[16] and protect student data privacy[17].

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1 **Make positive, socially responsible contributions.** For example, engaging productively with others online; sharing creative or intellectual work that is original, protected and documented; being involved in virtual social actions such as crowdsourcing, crowd funding or mobilizing for a cause; using digital tools for entrepreneurship and innovation.

2 **Exhibit empathetic behavior.** For example, being civil and humane in online interactions and communications; standing up for others online; and being respectful of others' perspectives and experiences.

3 **Build relationships and community.** Using digital tools to contribute to the common good and build interpersonal bonds.

4 **Establish a learning culture.** Create shared values, social norms and goals around the purpose and approach to learning in the digital world.

5 **Curiosity.** Encourage and support students to question the information and ideas put in front of them to pursue their own interests, ideas and hunches.

6 **Critical examination of online resources.** Assessing the credibility and usefulness of information found online and in the media, for example, evaluating accuracy of source data, bias and relevance to learning goals; learning to consider and recognize personal biases, especially confirmation bias; varying search terms to find alternative perspectives.

7 **Digital literacy.** Being able to use technologies effectively and being able to discover, analyze, create and communicate information using digital tools and resources.

8 **Media fluency.** The ability to meaningfully interpret large amounts of complex information in multiple formats and communicate and share across various media formats.

9 **Mentor.** Coaching or offering ongoing guidance that includes modeling of your own practice; sharing with and teaching others; and providing ongoing, productive feedback and advice.

10 **Safe practices.** Interactions that keep you out of harm's way, for example, knowing the identity of who you are interacting with; how much and what kind of information you release online; and protecting yourself from scams, phishing schemes, poor purchasing practices and e-commerce theft.

11 **Legal practices.** Interactions that are mindful of the law, for example, abiding by copyright and fair use, respecting network protections by not hacking them, not using another's identity.

12 **Ethical practices.** Interactions that align with your moral code, for example, preventing or not engaging in cyberbullying, trolling or scamming; avoiding plagiarism; and supporting others' positive digital identity.

13 **Protection of intellectual rights and property.** Mindful sharing of creative and intellectual work; knowing and using creative commons as well as innate copyright protections.

14 **Model and promote.** Educators engage in these best practices themselves; bring transparency to them with colleagues, parents, students and other stakeholders; and promote them among students, colleagues and other stakeholders.

15 **Management of personal data.** For example, creating effective passwords, authenticating sources before providing personal information, sharing personal data conscientiously, not posting addresses or phone numbers publicly.

16 **Management of digital identity.** How an individual is represented online in the public domain based on activities and connections or tagging through social media posts, photos, public online comments or reviews, and how others depict you online.

17 **Protect student data privacy.** Actively protecting students' personal and academic information through such precautions as not sharing student work, pictures or identifying information without permission from students and parents or guardians; being safe when working with student data in public or shared spaces; understanding companies' privacy and data management policies; and avoiding those without strong management and privacy for student data.

In our world, each country has rules and norms about how to interact with others and content. Children learn about these cultural characteristics as they grow up immersed in the culture. Learning about a culture can also happen at all ages as a person visits a new place or moves to a different country. The person learns to adapt to the cultural rules and norms. The same applies in the digital world. Students need to learn how to be good digital citizens as they work, learn, play and engage with others.

Digital citizens learn to be safe, be respectful of others and make positive contributions to the internet as they build relationships.

The main difference as people learn to navigate between analog and digital worlds is the scale and speed of impact. In both worlds, students have opportunities to "make the world a better place," but in the digital world, students are using digital tools and social media to work toward causes that are important to them. Digital citizenship addresses the rights and responsibilities, but also the nearly unlimited opportunities students have to make an impact, even at a global scale.

Standard 3 provides guiding principles on the rights, responsibilities and opportunities that students have within the digital world. Educators can mentor students to exercise their civic rights in order to co-develop social norms.

Here are examples of how ISTE members work toward this standard:

> The ISTE Standard for Educators, Citizen, informs my professional practice as I strive to model safe and responsible uses of digital media. While guiding students in the awareness, protection and analysis of their own digital footprints, it is also important that I promote best practices among my colleagues that are respectful of student information, such as data collection and storage, emails that include student demographics and critical evaluation of privacy policies for mobile apps that students use.
>
> –Eric Carson, Connecticut

> I teach students how to be responsible digital citizens through an infographic that I made. The infographic focuses on digital footprints, what they are, why students should care, and how to manage and protect their own digital footprint.
>
> –Ashley Ward, Michigan

> I am always looking for ways to talk about students as digital citizens and how teachers can encourage rather than limit their digital opportunities. As an example, I spoke with a teacher just yesterday who wanted to stop using Google Classroom because her middle school students were saying inappropriate things to each other in the comments. I explained to the teacher that she actually had a great opportunity to discuss with her students the difference in communication styles and appropriateness when you are texting your friends or having a school discussion. I encouraged her to get her students involved in setting their own guidelines and norms.
>
> –Nancy Watson, Texas

Learning Catalyst

4. Collaborator

Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems. Educators:

a. Dedicate planning time to collaborate with colleagues to create authentic learning experiences[1] that leverage technology.

b. Collaborate and co-learn[2] with students to discover and use new digital resources and diagnose and troubleshoot technology issues[3].

c. Use collaborative tools[4] to expand students' authentic, real-world learning experiences[5] by engaging virtually with experts, teams and students, locally and globally.

d. Demonstrate cultural competency[6] when communicating with students, parents and colleagues and interact with them as co-collaborators in student learning[7].

Research has shown the power of collaboration in improving educator practice (Ronfeldt, Farmer, McQueen & Grissom, 2015). Today's educators are the pioneers of using technology purposefully and meaningfully. Through collaboration, we share ideas, resources and differing viewpoints; we access expertise and critical friend feedback; and we explore problems and solutions together. These benefits lead to an educator who is better equipped to improve student learning beyond what they could do in isolation. Educators who grow professionally are those who purposefully set time to collaborate with others and build Professional Learning Networks (PLNs). Administrators engender a collaborative environment by providing regular times during the school day for sharing ideas and collaborative grouping strategies.

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1 **Authentic learning experiences.** Activities that are based on students' real-world experiences or current issues, use real data or work to solve real-world problems.

2 **Collaborate and co-learn.** Reconfigure the teacher-student relationship to encourage modeling and facilitating student learning through relationships built on collaborating and learning together.

3 **Diagnose and troubleshoot technology issues.** Being able to draw on student and teacher knowledge to solve technology problems and model this practice for students, for example, restart a device, install software updates, transfer work from one device to another, troubleshoot when audio/video won't play and recognize functional similarities between different devices or software.

4 **Collaborative tools.** For example, cloud-based, shareable documents and calendars; social media; video and audio conferencing software; and email.

5 **Authentic, real-world learning experiences.** Learning experiences that have value or resonance beyond the classroom, for example, solving real-world local or global problems; career and workforce related projects and skill-building; and design projects and processes.

6 **Cultural competency.** Being able to interact appropriately and effectively with people from all cultures; being mindful of others' experiences and aware of one's own identity and ideas about difference.

7 **Interact as co-collaborators in student learning.** Thoughtfulness in designing learning experiences that consider how cultural identities can enhance student learning and improve collaboration and communication with parents or guardians and other stakeholders.

Effective collaboration comes from many sources such as a peer educator sharing a strategy for organizing test data, a parent sharing a motivation strategy or a student sharing how they use a new technology. These are all valuable partners, and the educator will reciprocate with ideas, strategies and skills that they can contribute.

Collaboration amplifies an educator's knowledge, skill and understanding, turning a good educator into a great educator.

Standard 4 provides a description of how an educator can become a collaborator. The first indicator identifies the need for a dedicated time to collaborate to determine ways technology can be leveraged to transform learning. This can include face-to-face collaboration as well as using digital tools to collaborate with remote colleagues. The second indicator highlights collaboration and co-learning between educators and students in learning new technologies.

The third indicator highlights the use of digital collaborative tools to engage in contextualized learning experiences. It also emphasizes the importance of educators providing students with opportunities to connect with people around the globe. In connecting with global understanding, the fourth indicator asks the educator to demonstrate cultural competency and a collaborative mindset in interactions with a variety of different people.

Here are examples of how ISTE members work toward this standard:

In the grade level I teach, technology allows us to come together to collaborate on more than just lesson plans. We discuss student growth and weaknesses to identify the strategies and techniques that were successful and those that weren't. We also share data and resources to improve remediation efforts.

–Susan Kidd, Virginia

Learning is more active, student-centered, authentic, engaging, inspiring and fun when it is social. Technology facilitates collaboration: cloud-based and mobile solutions enable a location-independent synchronous or asynchronous collaboration. In my classes, I use a blended approach of individual and collaborative learning, especially in inquiry- and project-based STEM courses.

–Stavros Nikou, Greece

I am constantly trying to improve my practice and amplify instruction by incorporating technology. By collaborating with like-minded teachers, I am able to find new strategies and applications to enhance my lessons. Student feedback is also essential in discovering which technology tools are engaging and effective.

–Maddy LaVoe, New Jersey

5. Designer

Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability. Educators:

a. Use technology to create, adapt and personalize learning experiences[1] that foster independent learning[2] and accommodate learner differences and needs[3].

b. Design authentic learning activities[4] that align with content area standards and use digital tools and resources to maximize active, deep learning[5].

c. Explore and apply instructional design principles[6] to create innovative digital learning environments[7] that engage and support learning.

Educators are designers of learning. Standard 5 highlights the role and opportunities that the educator has in that design process. There are many design factors that need to be recognized to best support students and enable them to take advantage of what digital technologies have to offer. Design is a skill that educators need in order to develop authentic, learner-driven activities and environments that recognize and accommodate learner variability.

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1 **Personalize learning experiences.** Capitalize on technology's efficiencies and functionality to meet students' individual learning needs using tools like scaled tests and quizzes; adaptability tools and features; software data that can capture where students are struggling or spending the bulk of their time; competency-based learning resources; student reflection tools; project planning, organization and time management tools; communication, collaboration and individual research and curation tools; and tools that facilitate design and creativity.

2 **Independent learning.** Student ownership over their learning goals, demonstration of competency and structuring of work.

3 **Learner differences and needs.** Systemic learner variability that, if planned for and supported, maximizes student learning and engagement, for example, differentiation, assistive technologies and accommodations; building motivation to learn by stimulating interest; multimodal content delivery; fostering learner awareness of their work preferences and recognition of how academic work aligns to personal goals.

4 **Authentic learning activities.** Learning experiences that have value or resonance beyond the classroom/academics, for example, solving real-world local or global problems; career-/workforce- related projects and skill-building; wrestling with significant philosophical or intellectual problems; and design projects and processes.

5 **Active, deep learning.** Leveraging digital tools and resources so students can gain mastery of content area knowledge while also gaining vital competencies, including problem-solving, critical thinking, effective communication, collaboration, self-direction and belief in their ability to grow and improve with hard work and perseverance.

6 **Instructional design principles.** Established and evolving best practices and guidelines for designing learning experiences for targeted learners.

7 **Create innovative digital learning environments.** Maximize learning by designing effective instruction in a variety of learning environments and rethinking physical space to enhance new models of classroom learning such as blended learning, online learning and various device models such as 1:1 tablets or laptops, mobile devices and computer labs.

Standard 5 combines both skill and creativity as educators are allowed the opportunity to rethink and redesign learning with technology. The first specification is that the activities should be authentic and learner driven. Authentic activities are those that have the students engaged in real-world tasks. It is important that the activities be learner driven as the student is not only the center of the experience, but the director. They engage with the content, think critically about solutions and determine how and which technologies are most appropriate. The ISTE Standards for Students are a great guide to student use of technology, and designers will often review and align their learning design to these standards.

Just as tailors design suits for a perfect fit, educators design learning activities and environments that are ideal for their students.

The indicators provide further direction of how to be a learning designer. The first focuses on the use of technology to consider all learners. The second describes an educator who is thinking about the content to be covered and how to use technology to design authentic learning experiences. The third indicator includes the use of design principles that involves the products and environment used in the learning experience.

Here are examples of how ISTE members work toward this standard:

> Modeling curiosity and confidence while planning for and using technology is a key part of my role as a fifth grade teacher at Mary Williams. I design and adapt learning experiences and professional development that provides students and educators a path to envision a connected world differently. We use online creative authoring platforms to adapt standards-based projects that each learner then personalizes. These designs result in authentic multimedia research projects centered in student choice. They collaborate across the curriculum and create digital products that help them learn and teach each other.
>
> –Barbara Grogan, Virginia

> The traditional approach to learning does not work for our students. Support for current and emerging technologies is more important than ever. As an instructional technology coach, I enjoy spending a lot of my time working with educators in designing new approaches to learning that take advantage of technologies to better meet the individual needs of the learners.
>
> –Kevin Anderle, Colorado

> As a teacher, I always think about the inner and the outer space of learning. As my students are older, they use technology to bridge their learning gaps and to challenge their peers. They edit the materials and build quizzes as if they were also responsible for their peers' learning. I also customize exercises for those who need extra help.
>
> –Isabel Pinto, Portugal

6. Facilitator

Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students. Educators:

a. Foster a culture[1] where students take ownership of their learning goals and outcomes in both independent and group settings[2].

b. Manage the use of technology and student learning strategies[3] in digital platforms, virtual environments, hands-on makerspaces or in the field.

c. Create learning opportunities that challenge students to use a design process[4] and computational thinking[5] to innovate or solve problems.

d. Model and nurture creativity and creative expression to communicate ideas, knowledge or connections.

In the past, educators were perceived as the holders of knowledge. The educator's role was to pass on knowledge to their students. Since that time, research findings have shown that students gain a deeper understanding of the concepts when they have the opportunity to be active in that learning process. It is the educator's role as facilitator to provide an open and inviting climate to student engagement. This is accomplished by designing, developing and infusing digitally rich environments in which students can achieve the Student Standards.

The first indicator has students developing their own learning goals. Goals are crucial as they promote motivation, focus and direction. As students develop goals, it engenders an enhanced ability to target actions they need to perform and choices they need to make to reach the desired outcome. With their goals in mind, students can enact their actions steps in the field and virtual spaces as managed by the educator. Indicator two asks that educators offer students a rich variety of digital resources and environments.

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1 **Foster a culture.** Creating shared values, social norms and goals around the purpose and approach to learning by, for example, bringing students into the process of establishing and maintaining culture; setting up space and time for students to fail and try again; establishing space and time for student reflection and goal setting; allowing students voice and choice in demonstration and evaluation of competency.

2 **Independent and group settings.** Individual and collaborative group work, conducted online, face to face or hybrid.

3 **Use of technology and student learning strategies.** Keep students supported, on task and learning in a variety of face to face, digital or hybrid environments.

4 **Design process.** A methodology for problem-solving; a series of steps used to solve a problem and design a solution. For example, human-centered design process, project-based learning, engineering design processes and scientific method.

5 **Computational thinking.** A problem-solving process that includes, but is not limited to, the following characteristics: formulating problems in a way that enables us to use a computer and other tools to solve them; logically organizing and analyzing data; representing data through abstractions such as models and simulations; automating solutions through algorithmic thinking (a series of ordered steps); identifying, analyzing and implementing possible solutions with the goal of achieving the most efficient and effective combination of steps and resources; and generalizing and transferring this problem-solving process to a wide variety of problems.

The third indicator describes how students should be given opportunities to think critically by using a design process and computational thinking. During these processes, students unpack the problem, consider solutions, try out the solutions and use approaches and skills from computational thinking such as problem decomposition, algorithmic thinking, logically organizing and analyzing data, and generalizing and transferring solutions to other problems. Often, this is an iterative process until the solution is found.

The facilitator has the students responsible for their own learning. Facilitators let the students' creativity, personality and independence shine.

The fourth indicator for this standard is developed on the knowledge that there are different ways a student can show skill or knowledge competency. Students may use a digital image or a text document to demonstrate understanding, while other students could create a video, podcast or website. Technology provides many ways for students to be creative and communicate ideas. It is the educator's responsibility to model potential demonstrations of competency and nurture creative expression.

Here are examples of how ISTE members work toward this standard:

> As a classroom teacher, my role is a facilitator of knowledge, rather than a "sage on the stage." I want my students to ask questions about the topic and then investigate to find their own answers. My students are encouraged to make mistakes and to learn from them. To accomplish this, I use a variety of technologies in order for my students to access the content that will drive their investigations. My students create commercials, research and make proposals to solve real-life community problems, design their own interpretations of Shakespeare plays … the list goes on.
>
> –Shannon Wasilewski, Massachusetts

> I have student involvement in an iterative process as they focus on verbalization, team work, design and then recovery if they have not met the objective. Students then continue this process until they have met the objective as self-driven learners exploring different possibilities.
>
> –John-Paul Asija, Virginia

> My classroom is extremely student centered, and I strive to empower students to take ownership of their learning and goal setting. Technology facilitates our learning as a tool for producing content and demonstrating mastery of learning. Students select digital tools that assist them in collaboration and creation, communication and critical thinking. We have digital discussions, record podcasts, create videos, blog and more.
>
> –Heidi Weber, Ohio

7. Analyst

Educators understand and use data to drive their instruction and support students in achieving their learning goals. Educators:

a. Provide alternative ways for students to demonstrate competency[1] and reflect on their learning[2] using technology.
b. Use technology to design and implement a variety of formative[3] and summative assessments[4] that accommodate learner needs[5], provide timely feedback[6] to students and inform instruction[7].
c. Use assessment data[8] to guide progress and communicate with students, parents and education stakeholders to build student self-direction[9].

Technology has introduced a range of ways for students to demonstrate their knowledge and for educators to access, analyze and use data to pinpoint areas for improvement. Technology can allow for almost immediate feedback to help students make corrections and build their practice. The learning sciences tell us that immediate, targeted feedback motivates students to practice more (Ciampa, 2013). Standard 7 broadly addresses assessment in the digital age. The way to determine if a student is heading in the right direction toward a goal is to analyze assessment data. This rich source of information provides the educator with a clear picture of what an individual learner knows about a concept. Unpacking the data also uncovers what specific misconceptions and gaps students may have in their learning.

1 **Alternative ways to demonstrate competency.** Alternatives for how students demonstrate knowledge, skills and dispositions might include students exhibiting competency in a final project or presentation; using an e-portfolio system that manages student artifacts and reflections; and allowing students to choose their pathway for learning and when they show competency rather than forcing all learners into the same pace or schedule.

2 **Reflect on their learning.** Use digital tools to reflect on the process of learning, successes and areas for improvement, and to set goals for future adjustments to improve learning focus, process or approach.

3 **Formative assessments.** For example, apps that take real-time measures of knowledge and understanding through surveys or embedded questions; recording software that allows students to reflect on or explain their thinking; sites and apps where students respond to discussion or reflection questions; and backchannel chats or messaging systems that allow students to ask questions or clarify for each other.

4 **Summative assessments.** For example, tests that allow for visual, interactive or other responses as an alternative to traditional testing questions; performance-based assessments that showcase knowledge, process and thinking; portfolios, videos or competency-based assessments that can be completed and evaluated when students feel ready; and tools that differentiate for students of differing abilities.

5 **Accommodate learner needs.** Account for and understand diverse student learning needs to support the success of all learners.

6 **Timely feedback.** Feedback that maximizes digital tools to provide students substantive feedback as quickly as possible. Examples include built-in data capturing of assessment systems and other digital tools; modeling how to understand and use tool-embedded feedback mechanisms like "help" tips, error notifications and gamified success or failures; using commenting tools or audio and video tools to provide direct feedback on student work.

7 **Inform instruction.** Analyzing assessment data to adjust current instruction or iterate on future instruction. Applies to both classwide and individual student instruction approaches.

8 **Assessment data.** Information about student strengths, gaps, preferences and current achievement from both formative and summative assessments used to adjust and enhance individual student learning.

9 **Student self-direction.** Student ownership of learning goals, process and demonstrations of competency that can be enhanced with transparency and knowledge of how to capitalize on assessment data from teachers, administrators, parents or guardians and students themselves.

As the educator analyzes data, they are also able to look at the class as a whole to see if there are trends. This is powerful information to use to drive future instruction to best meet the needs of each student. Digital tools greatly support the analyst as they can be used to count data points, calculate results, improve accuracy and reveal individual and class trends. These technologies can also be used to make comparisons across time and students.

Analyzing assessment data lets the educator know if they are driving in the right direction to reach the desired destination.

The indicators for this standard guide educators to incorporate technology into assessments and allow for students to demonstrate their knowledge using technology. The first indicator describes the design and implementation of a variety of assessment types. To effectively do this, educators first determine what skills or knowledge they want to assess, then decide the best method to assess that capability. Digital tools can be selected to meet the assessment requirements as well as the needs of the individual learner. This indicator also highlights additional benefit of using technology with rapid feedback.

The second indicator describes educators' skills in considering the many ways a student can demonstrate competency through different types of assessment. Student reflection is also included in this indicator as a powerful way to activate student actions and accountability. This connects with the third indicator as students need access to and support in understanding the assessment data. The analyst provides a clear reading of the data to the student as well as other stakeholders.

Here are examples of how ISTE members work toward this standard:

> I love using current technology to analyze and support student learning goals. There are so many tools that provide instant feedback and that allow educators to adjust and personalize their teaching on the fly. Technology also provides so many options for differentiation and creativity with formative assessment. Students can show competency in a variety of ways, which gives the teacher a better picture of what students understand.
>
> –Holly Miller, Colorado

> Analyst is an integral part of my duties as principal, especially analyzing data that we use to assess our students' outcomes. This allows us to adjust our practices so we can improve our students' achievement. Mobile learning devices have opened a wide range of options for assessing our students. Exit tickets, no longer limited to a math problem or a written response, now allow students to make movies and create keynote presentations. Stakeholders can link data to authentic student work, and then we can work with our educators to help our students achieve better outcomes.
>
> –Teresa McGaney-Guy, New Jersey

> I had students work on formative activities on the computer. The students loved the rapid feedback the programs gave, and when they got the final results they would print them off and come to me so we could discuss together what they needed to work on. I would have the student lead this discussion.
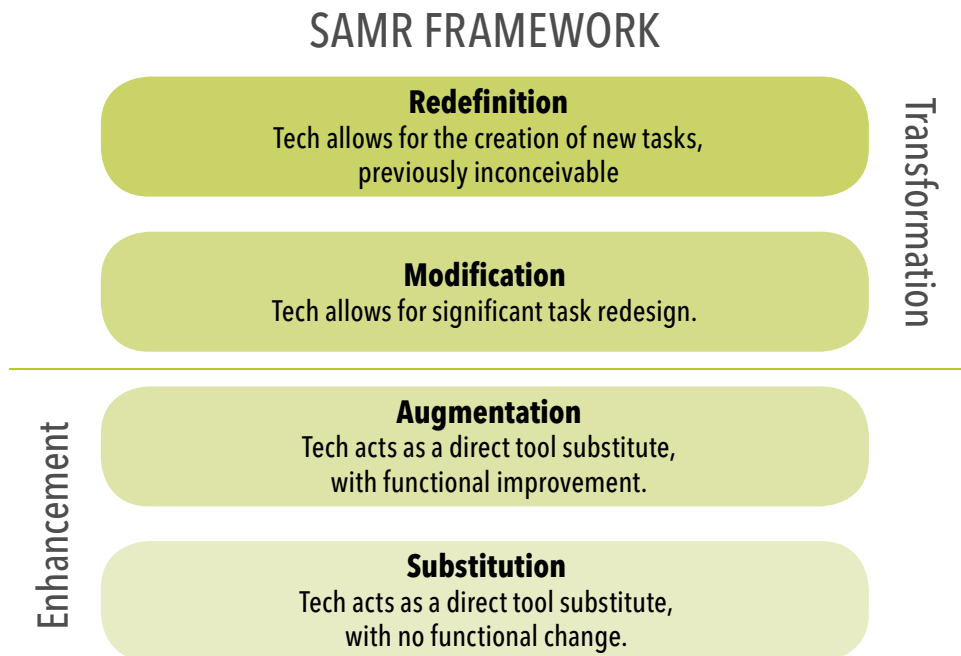>
> –Sally Bair, Pennsylvania

Connecting to Other Standards and Frameworks

There are various frameworks and standards used in the educational context. These are often developed based on a professional role, such as an educator, administrator or coach, or they may be created with a focus on a particular subject area. This section explains how the ISTE Standards for Educators connect with other frameworks and standards, and how they can be used effectively together to transform learning and teaching in your school.

SAMR

SAMR stands for Substitution, Augmentation, Modification and Redefinition (Puentedura, 2009). This framework is used to categorize four different ways technology can be used for learning and teaching.

SAMR FRAMEWORK

Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign.

Transformation

Augmentation
Tech acts as a direct tool substitute, with functional improvement.

Substitution
Tech acts as a direct tool substitute, with no functional change.

Enhancement

Substitution describes the use of technology for a task that can be replicated with a non-digital technology. Augmentation is when technology is used with some functional improvement. These two categories are called "Enhancement" as digital tools are being used as a basic upgrade to non-digital tools. Modification is when technology allows for a significant redesign of an activity – the technology benefits are more obvious than in the substitution and augmentation categories. Redefinition is the top of the SAMR model and describes tasks that could not be conducted without technology.

The SAMR framework works well in conjunction with the Educator Standards. The standards provide educators with specific details of what topics need to be considered. SAMR can be used to think about how technology assists in accomplishing those standards. Consider this analogy: imagine the ISTE Standards as a highway. With all highways, there are various on-ramps for a car to join that highway. SAMR can be four different on-ramps depending on where the person is located at that time. All four on-ramps reach the highway, but they do so in different ways. As confidence grows and skills increase, different on-ramps can be taken to consider new ways to meet the needs of the learners and leverage the best use of the technologies.

To explain this further, the table below shows Standard 1 and how SAMR can be used to apply to that standard. All four ways meet the objective of the standards, but these educators do so using technology differently.

ISTE Standards for Educators Standard 1: Learner

Educators continually improve their practice by learning from and with others, exploring best practices in the use of technology to improve student learning. Educators:

c.   **Stay current with research that support improved student learning outcomes, including findings from the learning sciences.**

Redefinition. Tech allows for the creation of new tasks, previously inconceivable.	This educator takes part in virtual reality professional development. In this immersive environment, researchers from around the world share their findings, and the educator learns more about this research as they work through scenarios in a virtual classroom.
Modification. Tech allows for significant task redesign.	Through an online social network, this educator is able to use a chat feature to ask questions of researchers from around the world.
Augmentation. Tech acts as a direct tool substitute with functional improvement	This educator is part of a private online professional development group for educators working in that school.
Substitution. Tech acts as a direct tool substitute with no functional change.	This educator regularly reviews magazines about current research on teaching and learning. Rather than getting the paper copy, this educator accesses the magazine via the internet.

TPACK

TPACK stands for Technological, Pedagogical and Content Knowledge (Mishra & Koehler, 2006). This framework identifies three areas of knowledge an educator should be using together for effective teaching and learning. Technological knowledge refers to technology and how it can be used in education. Pedagogical knowledge is methods of learning and teaching. Content knowledge is the knowledge of the subject matter that is to be learned or taught. What is important about these three knowledge areas is that they need to work effectively in unison to be effective.

The TPACK framework is a global view of how to teach content knowledge. It reminds the educator to think about the topic they are teaching, how they are going to teach it, and what technologies they are going to use in the classroom. The Educator Standards provide specifics for how the educator can connect content knowledge, pedagogical knowledge and technological knowledge. In addition, the standards go beyond content knowledge to give direction on how educators can use technology effectively as learners, leaders, citizens, collaborators, designers, facilitators and analysts.

National Education Technology Plan

The National Education Technology Plan (NETP), developed by the U.S. Department of Education's Office of Educational Technology, sets a national vision for using technology to support teaching and learning. It aligns to federal education programs including those created by the Every Student Succeeds Act (ESSA) and the Individuals with Disabilities Education Act (IDEA). The goal of the NETP is that educators will be supported by technology that connects them to people, data, content, resources, expertise and learning experiences that can empower and inspire them to provide more effective teaching for all learners.

The Educator Standards are well aligned to the goals established by this national vision. The NETP and the ISTE Standards both focus on teaching, assessment and learning in similar ways:

Teaching: Educators will be supported by technology that connects them to people, data, content, resources, expertise and learning experiences that can empower and inspire them to provide more effective teaching for all learners. The Educator Standards can be used to support this NETP objective in providing concrete examples of empowerment. The NETP connects with many of the ISTE Standards. A good way to connect them is to look for the similar words in the main standard description, while the indicators provide examples of what the standard looks like in practice.

Assessment: At all levels, our education system will leverage the power of technology to measure what matters and use assessment data to improve learning. The NETP particularly connects with Standard 7, as educators understand and use data to drive student assessment and support students in achieving their learning goals.

Learning: All learners will have engaging and empowering learning experiences in both formal and informal settings that prepare them to be active, creative, knowledgeable and ethical participants in our globally connected society. The ISTE Standards for Students can be used to support this NETP objective by providing concrete examples of what this participation would look like. A good way to connect them is to look for the similar words in the main standard description, while the indicators provide examples of what the standard looks like in practice.

Future Ready

Future Ready is another initiative from the U.S. Department of Education's Office of Educational Technology in partnership with the Alliance for Excellent Education, ISTE and many other education partners. Launched in November 2014 at the White House, Future Ready is targeted at helping district leaders set a vision for learning with technology in their districts. The Educator Standards can be used to set not only a vision, but a pathway toward that vision with each standard providing manageable chunks to meet each educator where they are and help them move ahead. What is different between Future Ready and the ISTE Standards is that Future Ready is focused on U.S. district leadership, while the ISTE Standards are international in scope and have tremendous flexibility to be localized and adapted to meet local needs. The ISTE Standards also have a wide range of users, from the classroom teacher in lesson planning to ministries of education that embed the standards in national policies.

National Board for Professional Teaching Standards

The National Board developed a set of Professional Teaching Standards and an accompanying voluntary certification to match those standards. The National Board Standards are not focused specifically on technology as the other frameworks above, but are focused on five general propositions for effective teaching:

Proposition 1. Teachers are committed to students and their learning.

Proposition 2. Teachers know the subjects they teach and how to teach those subjects to students.

Proposition 3. Teachers are responsible for managing and monitoring student learning.

Proposition 4. Teachers think systematically about their practice and learn from experience.

Proposition 5. Teachers are members of learning communities.

The National Board Standards are similar to the Educator Standards in that both sets of standards aim to continue the professional development of educators and show that there are multiple pathways for implementing professional development. From the propositions, you may notice the parallels to the Educator Standards with a correlation to 1) Facilitator, 2) Designer, 3) Analyst, 4) Learner, and 5) Collaborator. The difference is that the Educator Standards target how to accomplish those five propositions within the digital learning landscape. It is worth noting that the Educator Standards go beyond these five propositions to also include educators as leaders and citizens.

InTASC

The Interstate Teacher Assessment and Support Consortium (InTASC) provides a set of core teaching standards that outline what educators should know and do to prepare K-12 students for today's colleges and workforce. Similar to the National Board Standards, the InTASC Standards are general standards for teachers and not specific to the use of technology. While the InTASC are used to evaluate teachers, the ISTE Standards are aspirational and define a destination of what is possible and help educators set professional learning goals for themselves. Although there are differences between these standards, the InTASC Standards and the Educator Standards can be used in unison. An important similarity between the two sets of standards is that they both work on the premise that students learn in different ways, and that educators should learn through collaborative experiences. In addition, InTASC Standards include critical teacher dispositions. These dispositions can be used with the Educator Standards in considering the educator traits and values needed to bring about effective implementation of the ISTE Standards.

American Association of School Librarians

The American Association of School Librarians (AASL) developed a set of standards to guide school librarians to use resources and technologies in shaping learning in schools. School librarians are often a critical resource for educators navigating the digital landscape. The *AASL Standards for the 21st Century Learner* provide a framework for what students should know and how librarians can help facilitate that learning. The AASL provides four overarching standards:

1. Inquire, think critically and gain knowledge.
2. Draw conclusions, make informed decisions, apply knowledge to new situations and create new knowledge.
3. Share knowledge and participate ethically and productively as members of our democratic society.
4. Pursue personal and aesthetic growth.

These standards are accompanied by skills, dispositions, responsibilities and self-assessment strategies. These standards work hand in hand with the Educator Standards as librarians can use the standards for insight into their role as an educator using digital technologies and in supporting other educators. Both the AASL Standards and the Educator Standards focus on equitable and ethical use of technology.

PART TWO
Prepare

Getting Started with the Educator Standards

It's one thing to a read a set of standards for educators and another thing to put them into practice as a professional in the classroom. The tables in this section provide a series of reflective questions and tips for each of the Educator Standards and their indicators to help you consider your current practice and start deepening it through implementation of the specific competencies within the standards. If you find the ISTE Standards exciting but intimidating, pick one standard, one indicator or even one tip to focus on. Start small and continuously challenge yourself to expand your practice to enhance your career and deepen your students' learning.

Learner

When we say "lifelong learning," we sometimes forget that it applies to ourselves. Educators need to continuously find ways, individually and collaboratively, to explore best practices and model learning as an ongoing process. As you broadly think about Standard 1, consider these overarching questions:

- What does being a learner mean to me?

- How do I co-learn with my students and my colleagues?

Standard 1: Learner

Standard Statement: Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.

Standard Indicators	Reflective Questions	Tips
a. Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.	How do I stay current in my field and apply what I learn to teaching and learning practice? Am I willing to experiment with innovative pedagogical practices or new technology tools in my classroom and reflect on those experiences?	Set clear and specific goals for applying new learning to teaching practice. Find a reliable online resource to search for new ideas for teaching with technology. Engage in action research and reflect on how the outcomes apply to and reflect continuous improvement cycles related to learning and technology implementation. Think of a topic you struggle teaching and explore using new pedagogical strategies that use technology. Play with something with your students and don't be afraid to fail; turn it into a learning opportunity.

Standard 1: Learner

Standard Statement: Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.

Standard Indicators	Reflective Questions	Tips
b. Pursue professional interests by creating and actively participating in local and global learning networks.	What learning and connecting resources are available to me locally and globally? How can I find and connect with other educators with similar professional interests? Who inspires me in the field of education? In what ways can I connect with them and start a conversation? What are my areas of interest and how can I use digital tools to organize a PLN around that topic or focus?	Join an ISTE Professional Learning Network. Visit a colleague's classroom to learn about their approach to teaching and learning with technology. Bring together a small group of educators to learn together about how to apply technologies for learning. Ask your colleagues what learning networks they find useful and commit to trying two. Create a professional social media account that you reserve for connecting with other educators and sharing your own learning and knowledge.
c. Stay current with research that supports improved student learning outcomes, including findings from the learning sciences.	When I learn that a practice I use is not as effective as I originally thought, am I willing to adjust and set it aside for something new? Do I engage in conversation about current research? How do I make educational research meaningful in my context?	Set reasonable goals to stay current with key research that supports technology's role in improved student learning outcomes. Use your professional social media account to explore professional resources, groups and research articles. Create a cross-disciplinary team or group to share developments in learning sciences. Read blogs by other educators to learn what works well in their classrooms. Consider sharing what worked or didn't work for you. Solicit feedback from students.

Leader

Change often starts with educators who are empowered to advocate for students both within and beyond their classrooms. Educators who share their expert perspective with other educators, administrators and community members can prompt powerful and meaningful change. As you broadly think about Standard 2, consider these overarching questions:

- How might I act as a change agent?

- What are some of my strengths and how can I put them to good use within my school?

- What are the different ways that "leadership" can manifest itself, and how can classroom educators lead within their roles?

- What steps can I take to advocate for a model in which students are empowered to do their best learning?

Standard 2: Leader

Standard Statement: Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.

Standard Indicators	Reflective Questions	Tips
a. Shape, advance and accelerate a shared vision for empowered learning with technology by engaging with education stakeholders.	Does my school have an existing shared vision for empowered learning with technology? If not, how can I advocate for the creation of one? What should empowered learning look like, and what steps can I take to move my classroom and school in that direction? Are there others I can connect with that share my vision or have achieved the vision I aspire to? Are there others that I could help to better understand the vision? How can I work with grade-level educators and students below and above me?	Think about your own vision for "empowered learning with technology," and then listen and learn about the vision of other educators and stakeholders in your community. Open your classroom up to visitors. Feel free to choose specific times and to state if this is an established lesson, one you're working to hone or one you're just trying out for the first time. Participate in team, school and district committees to strengthen your voice. Have lunch with a colleague in a different part of the building to discuss strategies or ideas each of you are considering. Connect with other educators around the world to discuss challenges your school, district or community may face. Together, you may be able to find a solution.

Standard 2: Leader

Standard Statement: Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.

Standard Indicators	Reflective Questions	Tips
b. Advocate for equitable access to educational technology, digital content and learning opportunities to meet the diverse needs of all students.	Who are my students? How do they learn? What challenges are they facing? What do they need to thrive as learners? Do my students have equitable access to the technology and the learning provided by the technology? How can I assess a new tool or strategy to ensure all learners can participate in the learning experience?	Conduct a strengths and barriers assessment of each student. Consider how technology may enhance strengths and remove barriers for them. Start a conversation with administrators and the technology department about equitable access; learn together. Engage families in conversations about their children's needs, and consider the home language when communicating with parents. When considering a new digital learning tool, make sure it meets web accessibility requirements. Collaborate with colleagues who have expertise in diverse learning strategies such as special education or English language learning.
c. Model for colleagues the identification, exploration, evaluation, curation and adoption of new digital resources and tools for learning.	What criteria do I use to evaluate digital tools that I currently use in my classroom or that I would consider using in the future? What do I know about these tools and their use that I can share with others? How can I be transparent with colleagues about my own process of experimentation, risk-taking, productive failure and constant improvement?	When reviewing a new tool or resource, deliberately ask yourself how it will empower your students to learn. If it doesn't meet that foundational criteria, choose another tool. Find out what apps students are using. Encourage them to teach their favorite tools in creative ways such as developing tutorials to be used by other students and educators. Share your favorite tool with another educator. Ask for feedback about the value it brings to teaching and learning. Explore and use some of the vast options of free resources known as open educational resources (OERs). Volunteer to pilot an application or digital resource and provide feedback about its value for student learning.

Citizen

In a highly connected and rapidly evolving world with a variety of digital tools, technology will continue to pose new, unanticipated challenges and exciting opportunities. Together, educators and students can think critically about their values and how they guide technology use and engagement online. As you broadly think about Standard 3, consider these overarching questions:

- What characteristics are critical for citizens of all communities (digital and nondigital) to possess?
- How do I encourage students to be more deliberate as they interact in the digital world?
- How do I behave more deliberately myself?
- How can I knit these practices throughout my regular teaching practice and design?

Standard 3: Citizen

Standard Statement: Educators inspire students to positively contribute to and responsibly participate in the digital world.

Standard Indicators	Reflective Questions	Tips
a. Create experiences for learners to make positive, socially responsible contributions and exhibit empathetic behavior online that build relationships and community.	What positive, socially responsible contributions can my students make online? How can I shift my practice and approach to teaching online behaviors to accentuate the positive and proactive alongside the cautious and protective? How can I build relationships and community in my class using online tools?	Hold a group discussion on what it means to be positive, socially responsible and empathetic online. What does it look like? Brainstorm ways that students can practice these behaviors. Join forces with other educators, in your school or beyond, to showcase students' proactive work online and advocate for increased student empowerment. Review your own social media and online footprint, and ask yourself how it might be perceived by various stakeholders, including your students. Identify an opportunity to model the use of posting to social media in front of your class and perform a "think aloud" as you craft your post.

Standard 3: Citizen

Standard Statement: Educators inspire students to positively contribute to and responsibly participate in the digital world.

Standard Indicators	Reflective Questions	Tips
b. Establish a learning culture that promotes curiosity and critical examination of online resources and fosters digital literacy and media fluency.	How do I describe my current "learning culture?" What practical steps and concrete goals could I take to shift it toward greater curiosity and critical examination of resources? Have I ever read something online only to find out later that it was untrue or less than credible? How did the experience make me feel? Do I think students believe everything they read online? When was the last time I pursued something merely because I was curious? Why did I do it and what did it feel like?	Encourage students to pursue curiosities and model how to connect that curiosity to concrete goals or learning. Discuss how to balance "exploration time" with "get it done" time. Provide students with a checklist to validate authenticity and validity of online resources. Older students can help develop the list or evaluate an existing list for gaps. Develop a lesson in which students compare news from varied sources to illustrate media bias. Ask students to find online articles about the same event that present different facts. Use this as an opportunity to discuss heuristics and fallacies such as confirmation bias. Start conversations with colleagues about the online sources they choose to share with students and why. Encourage students to ask for sources when that information is not provided. Let students practice communicating and sharing with different tools, platforms and modalities to build their media fluency.
c. Mentor students in safe, legal and ethical practices with digital tools and the protection of intellectual rights and property.	Which safe, ethical and legal technology practices are applicable and most important for educators to consider? How can I help keep students safe in a digital environment? How can I empower them to keep themselves safe? In what ways do I take personal responsibility for my own personal data and identity? How well versed am I in respecting and adhering to intellectual property laws and guidelines?	Take a closer look at your school or district's acceptable use policy to better understand the safety and legal practices it includes. Consider what students see and hear when you talk about and use technology in the classroom. Develop a lesson or unit focusing on students' personal and professional goals, and include a section about how technology can help them reach these goals. Check the content you use for instruction regarding permissions to use it. Refresh your memory about educational fair use guidelines. Showcase Creative Commons (CC) as a tool to find digital content that has permissions for use. Have the students share something they created online and choose which CC license they want to use (or revert to full, default copyright).

Collaborator

Colleagues and students have valuable knowledge to share and great potential to learn from each other. Collaboration must be intentional to improve practice and support deep learning. As you broadly think about Standard 4, consider this overarching question:

- How can I facilitate meaningful collaborations with colleagues and students?

Standard 4: Collaborator

Standard Statement: Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.

Standard Indicators	Reflective Questions	Tips
a. Dedicate planning time to collaborate with colleagues to create authentic learning experiences that leverage technology.	How can I make time to allow for dedicated collaboration with colleagues? What can enhance collaboration and make it meaningful across content areas or grade levels?	Include student goals for learning when collaborating with colleagues and planning technology use. Include a digital sharing time in grade-level meetings. Get to know one or two educators in your setting and use a digital tool to stay connected. Use parent volunteers strategically for certain recurring activities and use that time to collaborate. Seek input and feedback from colleagues and students on the use of new applications, programs and digital media.
b. Collaborate and co-learn with students to discover and use new digital resources and diagnose and troubleshoot technology issues.	How might I create opportunities to co-learn technology tools with students and troubleshoot together? How might I draw upon the strengths of students and provide them with opportunities for peer teaching and learning? How do I seek and use feedback from students about their learning experiences? How do I model for students continuous learning and improvement and a willingness to take risks?	If you don't know the answer, challenge a student to find it. Survey your students to learn what tools they are interested in exploring. Ask students about digital tools they already use and include those as options to demonstrate mastery. Allow students to use a variety of tools and choose the one that fits their individual learning goals. Assign a different technology tool to pairs of students and ask them to teach you and the rest of the class how to use it for learning. Share a learning goal with students and ask them how technology might be used to reach the goal.

Standard 4: Collaborator

Standard Statement: Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.

Standard Indicators	Reflective Questions	Tips
c. Use collaborative tools to expand students' authentic, real-world learning experiences by engaging virtually with experts, teams and students, locally and globally.	What is missing from my classroom or school (such as diversity or expertise) that can be gained by collaborating beyond the walls of my school? Who are the experts in my content area and how might I connect them with my students? What are the best collaborative tools I have at my disposal, or can find, to connect my students to authentic learning?	Talk to colleagues to find out how they are using collaborative tools to connect their students to others. Participate in social media chats or blogs around a topic of interest. Choose a new social media tool to explore and use it to connect with other educators. If feasible, do the same with students. Seek out colleagues in other schools, states or countries who are willing to participate in collaborative activities. Use video chatting tools to create ongoing connections with other classrooms around the world.
d. Demonstrate cultural competency when communicating with students, parents and colleagues and interact with them as co-collaborators in student learning.	How does culture and background change the way I see the world and how others see me? In what ways might technology facilitate cross-cultural communication? Looking over my class, how does this specific group of students create a completely unique learning group and environment?	Proactively and frequently communicate about the learning experiences of students, keeping in mind various home languages. Regularly seek feedback from students about their learning experiences and from parents about their interactions with school. Ask students for examples of cultural issues or times when they have experienced cultural insensitivity or microaggressions. Recognize diversity as an asset and model cultural understanding for your students. Connect with classrooms from a different geographical area or other demographic from your students, facilitating mutual respect to cultivate empathy.

Designer

It is increasingly important for educators to keep current with best practices and evolving pedagogies that support student learning and provide opportunities to engage and thrive in a connected digital world. As you broadly think about Standard 5, consider this overarching question:

- In what ways can the ISTE Standards for Students help me design learning activities that use technology to enhance, enrich or deepen learning?

Standard 5: Designer

Standard Statement: Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.

Standard Indicators	Reflective Questions	Tips
a. Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.	How do I incorporate the interests and curiosity of each student to facilitate the learning process? How do I leverage technology to foster student voice and choice in the learning environment? What are my students various learning needs? How can I use technology to accommodate them?	Create opportunities for students to own and manage their personal learning goals. Give students choice on how they reach, reflect upon and document their learning goals. Revise an existing unit or lesson to allow students to use technology to take greater responsibility for their learning. Approach a new concept from a different learning perspective. If it is typically presented verbally, try an online or "flipped" approach. If it's something presented in a physical space, try something learners need to imagine. Give the students five minutes a day to learn whatever they want. Increase that time as the year goes on and as the students are able to take greater responsibility for the learning process. Work individually with students to brainstorm how their learning connects to their personal goals, either long term or short term.

Standard 5: Designer

Standard Statement: Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.

Standard Indicators	Reflective Questions	Tips
b. Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.	How do I critically evaluate and use digital tools to meet content standards? How are my students encouraged to evaluate and use digital tools to create rather than consume? How can a digital tool deepen learning in my content area even if it's not overtly related?	Design learning opportunities for all learners to creatively solve problems rather than relying on drill-and-practice methods. Ask other educators for their recommendations on strategies and technologies for designing active learning experiences. Encourage students to select appropriate tools that best meet their learning goals. Create a design challenge task. Explore examples of schools or educators that effectively apply deeper or authentic learning strategies.
c. Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.	How might a blended or online learning opportunity better support my students? How can I design a blended learning environment that optimizes both the face-to-face and online learning experience? How can different learning environments be leveraged to better support student learning? What is one principle or idea from instructional design that I can practice using to enhance my instruction?	Collaborate with colleagues to brainstorm strategies for engaging students in online, blended or active learning environments. Educate yourself on various learning models through webinars, conferences, edcamps or your PLNs. Use or build upon proven online resources and strategies for effective online, blended or face-to-face learning with digital tools. Visit a colleague's classroom to see which of their practices and approaches can be successfully adapted to your class. Adapt one lesson by incorporating a simple online learning activity and use the face-to-face class time for students to reflect on the experience.

Facilitator

Empowering students to become lifelong learners and providing them with the knowledge, skills and work habits to face unknown challenges is critical to their future success. This means giving students voice and choice in all aspects of the learning process. As you broadly think about Standard 6, consider these overarching questions:

- In what ways can I step back from a teacher's traditional role as information provider and encourage a more inclusive role of knowledge facilitator where students are challenged to be agents of their own learning?
- How do I embody the role of mentor for my students?

Standard 6: Facilitator

Standard Statement: Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students.

Standard Indicators	Reflective Questions	Tips
a. Foster a culture where students take ownership of their learning goals and outcomes in both independent and group settings.	What can I change in my practice to empower students to take ownership of their learning goals and outcomes? How can I collaborate with my students to define learning outcomes, and in what ways do I offer students the opportunity to develop and assess their own learning goals? What was my best experience working in a group? What made it positive and how can I recreate that experience for my students?	Share the ISTE Standards for Students with your class and encourage your students to use "I" statements based on them when setting learning goals. Find ways to share responsibility with your students, for example, helping in developing project rubrics, establishing class norms and defining individual learning goals. Teach students how to use a self-assessment rubric to focus on their responsibilities, goals and learning preferences. Use group roles to allow students to manage their own learning, contribute productively in teams, and experiment with different leadership and collaboration styles and roles. Seek online projects to promote global collaboration. Conduct a student strength inventory at the beginning of the school year to assist in the creation of collaborative groups. Guide groups in developing collaboration contracts to help divide tasks so that everyone makes a unique contribution.

Standard 6: Facilitator

Standard Statement: Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students.

Standard Indicators	Reflective Questions	Tips
b. Manage the use of technology and student learning strategies in digital platforms, virtual environments, hands-on makerspaces or in the field.	Do I currently have a system in place to manage technology use? Do I understand the capabilities of the digital tools that are available to me and my students, and how will using the tools help them achieve their goals? How comfortable am I designing and managing learning in different environments?	Do some online research to identify successful strategies for managing technology use in various environments. Engage students in setting clear ground rules and parameters for technology use across different learning environments. Find examples of colleagues using technology in various environments and observe how its role varies based on the environment. Take advantage of student expertise through peer coaching. Introduce online forums to your students and model how to engage and collaborate online.
c. Create learning opportunities that challenge students to use a design process or computational thinking to innovate and solve problems.	What is my understanding of computational thinking and design processes, and what are resources I can use for further learning? Am I asking my students to solve meaningful problems? How can I use both design processes and computational thinking in the same lesson or unit?	Explore ISTE's computational thinking resources. Find real-world examples of the design process in action and share them with your students. Identify a design process you want to use with your students and post charts in your classroom as a visual reminder. Select a time to use a design process with your colleagues to tackle a shared or school-based problem or need. Build in time for trial and error to foster a culture where students persevere and celebrate failure or setbacks when solving problems. Design a computational thinking learning activity that works in your grade and content area. Share it with colleagues and encourage them to do the same.
d. Model and nurture creativity and creative expression to communicate ideas, knowledge or connections.	How am I shifting learning culture from consuming to producing? Do I provide opportunities for student work to be seen by a larger audience and to have real-world impact? What do I see as the value of student creativity and sharing their own work for education?	Ask students about digital tools they already use and include those as options to demonstrate mastery. Set aside time with students during project work to conference about their learning goals and which digital tools are the best fit to share their learning. Gather feedback from beyond your school for one student project. Have students share their thinking and solutions with their classmates through blogging and online forums. Design and facilitate a project where students have to incorporate something overtly creative with content area knowledge (for example, using coding to create digital art; embedding an animated simulation with original, resonant music; creating a digital assemblage to illustrate a historical event), and have them reflect on the process and its value.

Analyst

To address individual student's learning needs, educators need to understand learner variability and differences in levels of understanding as they prepare learning activities. As you broadly think about Standard 7, consider these overarching questions:

- What data do I use, how does it inform my instruction and in what ways can technology expand or help me do this more effectively?

- How are my students able to guide their learning based on their data?

Standard 7: Analyst

Standard Statement: Educators understand and use data to drive their instruction and support students in achieving their learning goals.

Standard Indicators	Reflective Questions	Tips
a. Provide alternative ways for students to demonstrate competency and reflect on their learning using technology.	Do my students have choice in selecting how to demonstrate competency? Do I offer any low-risk (ungraded) ways for students to demonstrate progress? Do my students have time and space for meaningful reflection on performance and the opportunity to experiment and adjust based on that reflection?	Consider using digital portfolios emphasizing competency with your students. Look for examples of digital portfolios and competency-based work online. Build your own professional digital portfolio to model the process for students. Use a social media channel to seek ideas for alternative ways to assess students. Brainstorm a list of media and tools with students that can be used to capture reflections (i.e. blogs, video, audio interviews). Develop a go-to list of reflection questions and tips for how to take action on insights. Experiment with performance-based assessments where students complete a series of complex tasks and reflect on the process, thus showcasing their knowledge, process and thinking.

Standard 7: Analyst

Standard Statement: Educators understand and use data to drive their instruction and support students in achieving their learning goals.

Standard Indicators	Reflective Questions	Tips
b. Use technology to design and implement a variety of formative and summative assessments that accommodate learner needs, provide timely feedback to students and inform instruction.	What assessments am I doing currently? Are there digital tools that could make them more effective or efficient? How do I identify and select different kinds of assessments that provide data to address the range of my students' needs and abilities? How do I provide timely feedback to students that will help them make decisions to deepen their learning?	Understand the difference between formative and summative assessments and when to utilize each. Experiment with a digital formative assessment tool that measures student knowledge in real time or shortly after a lesson. Share results of a formative assessment with the students and ask them what they learned about themselves or other members of the class. Model for students how to use data and assessments to develop next steps. Identify and experiment with technology tools that provide personal feedback such as recording, video or commenting tools. Empower students to provide each other feedback or to gather feedback from people outside the classroom using checklists and rubrics, peer-to-peer conferences and online forums. Draw student attention to embedded feedback mechanisms in digital tools, such as grammar and spelling flags, hints and support tips in online tutorials, search functions and gamification feedback based on wins and losses. Work with students to set goals for how they will recognize and use these kinds of feedback.
c. Use assessment data to guide progress and communicate with students, parents and education stakeholders to build student self-direction.	How am I currently using data and how am I sharing it with my students and their parents? Am I analyzing and synthesizing data to provide a more accurate view of student progress? How might I use transparency in student and assessment data to empower students and improve their learning progress?	Use low-stakes assessments such as exit slips and online quizzes and games to check in with students and provide formative assessments. Use checklists or online polls for student to self-assess and track their own progress. Involve students in preparing for parent conferences, and consider a transition to student-led conferences. Develop a schedule to meet regularly with students to analyze and interpret assessment data, and work with students to set personal goals based on the data. Identify tools students can use to create personal tracking systems to track goals and progress.

PART THREE
Adopt and Implement

Adoption and Implementation Profiles and Tips

If you understand the ISTE Standards for Educators and have considered how the standards fit within your educational institution, you may be ready to start putting them to use. This section provides ideas to implement the standards through profiles describing various educational persona scenarios. By studying the persona best matched to your position, you can gather practical ideas about how to get started.

Educator Profiles and Tips

Stephen is an educator in North Carolina. He has been teaching for several years but has just been introduced to the ISTE Standards for Students. He has used technology in his teaching before but did not know the ISTE Standards for Educators could help him think about how to use technology purposefully in his class. He wants to know how to take that first step in using the standards.

After reading the Educator Standards, a good way for Stephen to begin is by setting a small goal using the standards. If Stephen was new to using technology, he could even start with an indicator in a standard. The second indicator of Standard 4 may be a good choice for Stephen because he can collaborate with students to co-learn, discovering digital resources together and troubleshooting issues they come across.

As Stephen is familiar with technology, it would be good for him to select a standard that he knows is something that he can improve on. As he is also new to the Student Standards, he may want to start with Standard 6 so he can work on facilitating learning with technology to support student achievement. Stephen will want to tackle one manageable piece of the Student Standards at a time, maybe focusing on just one standard or indicator as he thinks about how he is facilitating learning to help students use technology effectively for learning.

Tips to advocate for the ISTE Standards

- Find another educator to collaborate with, either someone well-versed in the ISTE Standards and using technology for learning or another newbie. Try out the same goal or starting point. Compare notes and plan how to improve further.

- Ask your instructional or technology coach if they know about the ISTE Standards. Ask for insight or help in understanding them.

- Read and share the terms and definitions that accompany the Educator Standards in this booklet and the Student Standards on the ISTE Standards web pages.

- Start a Twitter chat or discussion group for your school, district or state to explore and grow using the ISTE Standards as a base.

Gloria is an educator in South Dakota. She is a seasoned user of the ISTE Standards. Gloria has been teaching for a few years and often uses technology with her students. She is confident in her teaching and technology abilities. She understands how technology progresses learning and how our understanding of the best use for technology changes, therefore, Gloria wants to know how to embrace the new Educator Standards.

A good start for Gloria is to carefully review the Student and Educator Standards for the changes. Instead of focusing on technology being used to enhance teaching, these revised ISTE Standards are about using technology to transform learning and teaching. This means new approaches will be created to take the best advantage of these tools for learning and teaching.

To develop an understanding of the Educator Standards, Gloria could set small goals as she becomes familiar with them. Even though she has strong technology skills and knowledge, these standards call for a shift in thinking. Focusing on one standard at a time as she begins will help her look carefully at how the Educator Standards echo the Student Standards. As a technology- and standards-savvy educator, Gloria could also extend and enhance her leadership and collaboration skills to support others in the school.

Tips to advocate for the ISTE Standards

- Put together a school or district edcamp or unconference on understanding and implementing the ISTE Standards.
- Create a crosswalk or a cheat sheet showing interconnections between the ISTE Standards and other initiatives like content area standards, school or district technology plans, or teacher professional growth requirements.
- Volunteer to serve as the ISTE Standards expert on a committee or within your school or district.

Coach Profiles and Tips

Richard is a technology coach working in a large school in Maine. He has a passion for sharing how technology can be used to transform teaching and learning. However, he is aware that there are many educators in his school who rarely use technology in their classrooms and even look a little fearful when he talks about technology. Richard wants to bring those educators on board to use technology in an effective way using the ISTE Standards.

A good way for Richard to begin examining and using the standards is by having the educators connect with something they are familiar with. As the coach, Richard could make the connection to subject standards and identify key points that each educator can use to toward key skills, knowledge and understandings. In working toward these standards, the subject content becomes easier and less abstract.

Richard can let the educators know that the ISTE Standards are not intended to be used to evaluate educators. The Educator Standards were developed so educators can determine where they can move forward in their use of technology to transform teaching and learning in their classroom. Whatever level of educational technology use and knowledge the educator has, the ISTE Standards can meet the educator where they are and take them forward.

As Richard has the educators examining the standards, he can support them in choosing a small goal to begin working toward. This may be a standard, or they may focus on one or two indicators that provide concrete examples of strategies for working toward the larger standard. Richard will also consider his own practices as an educator – being transparent about lifelong learning, citizenship and advocacy – and model these practices to support educators.

Tips to advocate for the ISTE Standards

- Model using the Educator Standards for personal growth by transparently using them to set your own goals.

- Find or advocate for funds to support professional development related to the ISTE Standards.

- Lead a workshop or webinar on how to get started using the ISTE Standards

> **Diane is a new technology coach** at a school in Colorado. She quickly realizes that she is working with confident educators who often use technology in their teaching and learning. Diane wants to use the Educator Standards to take them to the next level.

The Student and Educator Standards are highly pertinent to these technology-savvy educators, moving them forward by expanding how technology is being used in their classrooms. The educators may even be familiar with the earlier iterations of the ISTE Standards, but these standards are different in that instead of focusing on technology being used to enhance teaching, these revised ISTE Standards are about using technology to transform learning and teaching. This means new approaches will be created to take the best advantage of these tools for learning and teaching. Diane may excite the educators about what they are doing already to transform learning and how to extend that into other areas.

A good starting point for Diane as coach is to have the educators select individual professional goals and work with them on their goals. Despite having extensive experience with technology, it would be pertinent to start by limiting the goal to one or two standards so the educators can fully focus on that standard to truly transform learning.

Tips to advocate for the ISTE Standards

- Advocate with the administration and support initiatives that build opportunities for educators to practice and develop their leadership skills to meet Standard 2.

- Put together a regular brief meeting where educators take turns sharing a tip for using technology for learning, showcase a new tool or present an idea for deepening an existing lesson plan using the ISTE Standards.

- Collaborate with educators to create a shared vision for learning with technology and present it to the administration.

Library Media Specialist Profiles and Tips

> **Sherri is a library media specialist** in Wisconsin. She often comes across great digital resources that can be used transform the way subject content is taught in her school. Educators in this school have various levels of technology skills and understanding, and Sherri would like to use the ISTE Standards to help guide them.

It would be useful for Sherri in her library media specialist role to use both the Educator Standards as well as the Student Standards. The Educator Standards will provide a framework to guide them in thinking about the best ways the educators can use the resources and the Student Standards will show what students will be doing as an embodiment of those effective educator practices.

As Sherri finds digital resources she wants to share with educators, she can differentiate by various educator technology levels by selecting digital tools for particular educators individually. For example, the less complicated tools would work best for educators who are unfamiliar and nervous with technology. As this library media specialist meets with the educators collaboratively to determine the best ways to use the digital tool, she could encourage the educator to select a single goal from the Educator Standards for implementing the tool. An educator confident and experienced with technology, in contrast, may have a rich discussion with the library media specialist as they look at the way the tool can be used in a variety of ways to connect with the ISTE Standards. Regardless of technology levels, selecting a small goal in using the tool may empower the educator to be successful and then expand that use as they continue to use the digital tool over time.

Tips to advocate for the ISTE Standards

- Model what it would look like to use particular digital tools with selected standards.
- Offer spaces where students and educators can use technology in a meaningful way, such as makerspaces.
- Collaborate with the educators in discussing how digital tools can be used for meeting the Educator Standards in particular.
- Showcase the Student Standards in action in the library as educators are invited into observe activities.
- Excite educators and students by holding competitions that make the best use of technology or demonstrate the different ways of showing understanding of a concept.

Administrator Profiles and Tips

> **Beth is a school administrator** in Virginia and is aware that many educators are using technology for teaching and learning in the school. She wants to help the educators move to the next level to improve student learning outcomes based on the ISTE Standards for Students.

There are many great ways Beth can use the ISTE Standards as the administrator to improve student learning outcomes. The Educator Standards provide seven characteristics that educators can develop to raise student achievement. Beth can adopt the ISTE Standards for use across the school. In doing that, it is important for her as an administrator to use the ISTE Standards as an informative tool rather than an evaluative tool.

The standards will provide a framework for the educators with concrete practical examples for each standard. Beth can provide extra time and resources for educators to work toward the goals. For example, as the educators work toward being Collaborators, they will need a regular time to be able to do that. To accomplish the Designer standard, educators may need digital resources to design activities and environments.

Tips to advocate for the ISTE Standards

- Adopt the ISTE Standards as part of a school improvement plan and build the standards into educators' personal growth plans. Support them in setting and achieving concrete goals.

- Host a listening meeting where staff share their concerns or needs in implementing the ISTE Standards. Spend more time listening than speaking and follow up with at least one concrete action or improvement based on their feedback.

- Build a culture of collaboration and transparency by using the Pineapple Chart[1] model for educators to showcase their work and process, and to learn from and with each other.

> **Yiannis is a school administrator** new to a school in California. He wants technology use in the school to be effective, and he wants to develop a collective consensus for that positive use. He wants to use the ISTE Standards to develop a shared vision and professional learning action plans.

As the administrator, Yiannis could begin by reflecting on his overarching goal, then meet with educators and other stakeholders, such as content specialists, library media specialists, students and parents to hear their goals. Yiannis may share the Student and Educator Standards with the various stakeholders to be considered as a guide for connecting their shared goals. The group could collaboratively review the standards, talking about educator empowerment and the leadership role that educators play supporting students to set goals and drive their own learning.

Yiannis can then facilitate opportunities for educator and student empowerment by providing a place for them to develop their own professional learning action plans as well as additional time and resources to reach their goals. By modeling trust, empowerment of others and support, Yiannis will be well on the way to building the shared vision and effective goal setting. It is important that as the administrator, Yiannis uses the standards as an informative tool rather than an evaluative tool.

Tips to advocate for the ISTE Standards

- Adopt the standards and convene a working team of educators, coaches and students to collaborate with you on creating the shared vision using the ISTE Standards as a base.

- Transparently use the ISTE Standards to set a personal learning goal and mentor your team by example.

- Insist that every meeting or training model productive, innovative use of technology.

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1. **A Pineapple Chart** is a system educators use to post planned classroom activities and invite other educators to observe them informally.

Maria is a district administrator in Florida. She wants to guide educators in her district toward positive technology use for learning and teaching. She wants to use the Educator Standards to develop a positive framework to build on.

One of the many strengths of the ISTE Standards is that they provide great examples of what the standards look like in practice. By adopting these standards to be used across the district, Maria will know that educators at all levels will be able to find a starting point to move ahead. With little knowledge or experience with technology, Maria will empower others with her trust, confidence and willingness to give credit to others as they work toward the standards. To further support the educators, Maria can have teacher leaders working across the district, strengthening skills of their colleagues and providing exemplars through co-teaching and modeling.

Tips to advocate for the ISTE Standards

- Work with stakeholders to present a proposal to the school board to adopt the standards for the district as part of the technology plan and to guide curriculum and professional learning.

- Create space for all educators in the districts to take risks safely and experiment and fail productively.

- Implement extra time for collaborative working among educators based on understanding, implementing and growing with the ISTE Standards.

- Offer opportunities for non-evaluative, critical but supportive feedback from leaders or peers.

Omar is a district administrator new to a district in New Jersey and wants to develop effective use of technology across that district. To do this, he wants to adopt the Educator Standards to build communication and collaboration with all stakeholders, including educators, administrators, students and parents. To do this, Omar wants to use his role as the district administrator to ensure that the message about what is happening in the schools goes out to a national and even global audience. He wants to know how he can use the ISTE Standards to help him do this.

As Omar is looking to achieve communication and collaboration, it is important that the standards are used as an informative tool rather than an evaluative tool.

In working toward his goal, Omar ,as the district administrator, will communicate the adoption of the standards to all stakeholders and provide time and guidance on how to use the standards. Providing additional support such as teacher leaders to provide co-teaching and modeling, information sessions for parents, guidance for administrators and hands-on opportunities for students would also be helpful.

Omar can model and promote the Collaborator standard to a group of administrators, educators, students and parents by collaborating with the local community or the larger global audience to demonstrate cultural competency when communicating the standards to others.

Tips to advocate for the ISTE Standards

- Engage with multiple stakeholders including educators, building or site leaders, students, the school board and parents to show how technology is being used for learning and to gain feedback.

- Establish student-run technology support centers.

- Working toward adoption, be transparent in decision-making.

- Model collaboration within different tiers of responsibility.

- Create a short, exciting presentation on how the ISTE Standards fit into your school's vision.

> **Ginger is a district administrator** in Illinois and wants to ensure that technology use is well aligned to the curriculum and classroom instruction. She wants to use the Educator Standards to help her accomplish this goal.

The ISTE Standards are a powerful tool for learning and Ginger recognizes their transformative potential. By using the standards in the curriculum, she can feel confident that educators have a clear framework to use technology to transform learning and teaching. Educators with any level of skills and knowledge can use the framework to take them to the next level. Through providing information, time and leadership, this district will be a model of effective learning.

Tips to advocate for the ISTE Standards

- As a first step toward adopting the ISTE Standards, provide detailed crosswalks between the standards and other frameworks that educators need to address like content area standards or growth plans. Show educators how the standards support and enhance learning and teaching.

- Make it easy for educators to share best practices and exciting resources with each other. Curate for quality and clarity as needed.

- Facilitate a culture where educators learn from the students and foster their ability to be empowered learners.

Higher Education Profiles and Tips

> **John Paul is an instructor in higher education** in Hawaii and wants to ensure that the preservice educators in his institution are prepared to effectively use technology. The goal is for the preservice educators to confidently and effectively use technology and integrate those technologies into various content areas and grade levels. John Paul wants to know how to use the Educator Standards with both the instructors and preservice educators to reach these goals

During the development of the syllabus, as the instructor, John Paul can use the Educator Standards as a model for effective technology use. In understanding the progression of teacher professional development, he would not focus the course on developing technology skills, but instead focus on how technology can be used to transform learning and teaching. The course may even be organized around the seven characteristics identified in the standards.

John Paul can support students in working toward that standard by using one or two indicators at a time to provide guidance to the students. Importantly, the course would have the instructor carefully modeling the standards in the course. The Student Standards would be integrated into this process as the assignments the preservice educators prepare for students would be aligned to these standards to provide a framework.

Tips to advocate for the ISTE Standards

- Model and advocate for integrating the standards throughout the educator preparation curriculum and courses with other faculty, both within and outside of your university.

- Integrate the ISTE Standards yourself in your pedagogy and teaching practice. Explain the importance of ISTE and the ISTE Standards to the students and detail how you as an educator are modeling good practice.

- Use the seven characteristics as a framework for class discussions and discussions with the wider academic community.

> **Helen is a higher education instructor** faculty member in Nebraska who is focused on using educational technology for teaching and learning. She wants to use the ISTE Standards to help other faculty members best understand how they should be helping the pre-service educators be prepared to use technology effectively in their subject content.

It is important for technology to be used as a powerful tool across all subject areas. As an instructor in higher education, Helen can positively use her sphere of influence by sharing the ISTE Standards with other faculty members. In higher education, faculty are often highly focused on their subject area and do not always know how technology can be used as a transformative tool. The ISTE Standards can provide a clear framework for instructors. Helen can share standards and describe how the indicators provide concrete, practical examples that the instructor and their students can follow to improve students' learning outcomes.

Tips to advocate for the ISTE Standards

- Model how the ISTE Standards can be used to transform learning and teaching in higher education settings, and invite fellow professors and administration into your class and work.

- Be an active advocate for the ISTE Standards on social media, in research publications and in publicly focused writing.

- Plan campuswide lunches, brown bags or meetings on using technology to improve learning and teaching, with the ISTE Standards as the guiding framework.

Essential Conditions

There are many things that need to come together to effectively leverage technology for learning. ISTE has created a list of 14 critical elements that must exist to achieve the best use of technology. These Essential Conditions include all levels from the local to the national as they cover issues of vision, funding, support, frameworks and policies. These conditions are overarching statements on key areas, yet also pinpoint items to be addressed. For example, Shared Vision is the first Essential Condition and while an overarching vision is needed, it identifies all those who should be involved in developing that vision.

The ISTE Standards work together with the Essential Conditions. The Essential Conditions provide a framework for everyone to work toward creating the right environment for using technology effectively. The ISTE Standards are directed toward how an individual can use their role to lead the school in the right direction and create the right environment for students to be successful.

Essential Conditions

Necessary conditions to effectively leverage technology for learning

Shared Vision
Proactive leadership in developing a shared vision for educational technology among all education stakeholders, including teachers and support staff, school and district administrators, teacher educators, students, parents and the community.

Empowered Leaders
Stakeholders at every level empowered to be leaders in effecting change.

Implementation Planning
A systemic plan aligned with a shared vision for school effectiveness and student learning through the infusion of Information and Communication Technology (ICT) and digital learning resources.

Consistent and Adequate Funding
Ongoing funding to support technology infrastructure, personnel, digital resources and staff development.

Equitable Access
Robust and reliable access to current and emerging technologies and digital resources, with connectivity for all students, teachers, staff and school leaders.

Skilled Personnel
Educators, support staff and other leaders skilled in the selection and effective use of appropriate ICT resources.

Ongoing Professional Learning
Technology-related professional learning plans and opportunities with dedicated time to practice and share ideas.

Technical Support
Consistent and reliable assistance for maintaining, renewing and using ICT and digital learning resources.

Curriculum Framework
Content standards and related digital curriculum resources that are aligned with and support digital age learning and work.

Student-Centered Learning
Planning, teaching and assessment centered around the needs and abilities of students.

Assessment and Evaluation
Continuous assessment of teaching, learning and leadership and evaluation of the use of ICT and digital resources.

Engaged Communities
Partnerships and collaboration within communities to support and fund the use of ICT and digital learning resources.

Support Policies
Policies, financial plans, accountability measures and incentive structures to support the use of ICT and other digital resources for learning and in district school operations.

Supportive External Context
Policies and initiatives at the national, regional and local levels to support schools and teacher preparation programs in the effective implementation of technology for achieving technology as well as ICT standards.

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Seal of Alignment

Educators already trust ISTE to help them achieve their curricular goals while integrating technology effectively into learning and teaching. Now they can turn to the ISTE Seal of Alignment to find high-quality products and services aligned to the globally recognized ISTE Standards.

Browse standards aligned resources at **iste.org/SealOfAlignment**.

Lead & Transform

Based on the 14 ISTE Essential Conditions, the Lead & Transform Diagnostic Tool offers education leaders a starting point for making the transition to a technology-rich and standards-ready learning environment.

Access the free diagnostic tool at **iste.org/LeadAndTransform**.