International Society for Technology in Education

ISTE SEAL OF ALIGNMENT REVIEW FINDINGS REPORT

21Things4Educators

April 2021

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ABOUT

ABOUT ISTE

The International Society for Technology in Education (ISTE) is the premier nonprofit membership organization serving educators and education leaders. ISTE is committed to empowering connected learners in a connected world and serves more than 100,000 education stakeholders throughout the world.

As the creator and steward of the definitive education technology standards, our mission is to empower learners to nourish in a connected world by cultivating a passionate professional learning community, linking educators and partners, leveraging knowledge and expertise, advocating for strategic policies, and continually improving learning and teaching.

ISTE SEAL OF ALIGNMENT

Resources and products designed with the ISTE Standards in mind are choosing to demonstrate their commitment to support critical digital age learning skills and knowledge. Regardless of a solution's intended grade level, purpose or content area, by addressing the ISTE Standards and earning a Seal of Alignment, a solution is shown to consciously, purposefully and meaningfully support best practices for digital age teaching and learning.

ISTE considers a solution aligned to the ISTE Standards only after an extensive review conducted by trained ISTE Seal of Alignment reviewers, and it has been determined to meet all critical elements of a particular standard indicator in accordance with specific review criteria.

By earning a Seal of Alignment, ISTE verifies that this product:

- Promotes critical technology skills
- Supports the use of technology in appropriate ways
- Contributes to the pedagogically robust use of technology for teaching and learning
- Aligns to the ISTE Standards in specific ways as described in the review finding report

RESOURCE DESCRIPTION

WHAT IS *21Things4Educators*?

21Things4Educators is a professional development website collaboratively created and maintained by the Macomb Intermediate School District and the Shiawassee Regional Education Service District in Michigan. The purpose of the website is to provide educators in Michigan and around the world with professional development on 21 "Things", i.e., topics related to current trends in educational technology, with an emphasis on "free resources for digital age teaching and learning." At the time of this review (2021) the *21 Things* were entitled:

1. Tech Best Practice
2. Face of the Classroom
3. Audio & Visual Learning
4. Blended Learning
5. Suite Tools
6. Global Collaboration
7. Productivity
8. Digital Citizenship
9. Be Legal & Fair
10. Search Strategies
11. Data Piracy
12. Interactive Learning
13. Digital Images
14. Creative Communication
15. Digital Storytelling
16. Design Thinking
17. Computational Thinking
18. Game Based Learning
19. Assessment & Analysis
20. Differentiated Instruction & UDL
21. Assistive Technology

While learning about each of the "things," educators are presented with a summary of related information and encouraged to make connections to teaching and learning by reviewing digital tools and resources that support best practice of the "Thing" in the classroom. *21Things4Educators* is designed to provide teachers with the opportunity to learn about current research-based classroom practices, along with digital tools selected to help meaningful integration of those practices in the classroom.

Selection of the topics and curation of the digital tools and resources is an ongoing collaborative effort with regular input from district level Instructional Technology consultants in Michigan, as well as Assistive Technology leaders who have input on the Things focused on instructional differentiation, Universal Design for Learning, and Assistive Technology (Things 20 and 21). In addition, they review the other Things for accessibility. The *21Things4Educators* website is updated regularly by a team of regional IT consultants who meet monthly to review recommended changes and make technical updates as needed.

HOW IS *21Things4Educators* IMPLEMENTED?

The *21Things4Educators* website can be used to support face-to-face instruction, online instruction, or a hybrid of the two. According to the website's developers, there are three ways that the *21Things4Educators* is used in Michigan: (a) as a blended course offered by one of Michigan's Educational Service Providers or partnering agencies; (b) as a locally designed professional development program offered to teachers by their school district; and (c) as a website that teachers can access on an as needed basis. For the latter, the *21Things4Educators* website is designed to be used by educators on their own time, at their own pace.

On the *21Things4Educators* website, teachers select a "Thing" from the list of 21 Things. On the page of the selected "Thing," educators are met with three options: Define, Connect, and Apply and are expected to proceed in that order. Within each of these categories, educators can access a variety of linked instructional resources (readings, videos, digital tools, webpages, etc.), presented in a similar format for each "Thing" in order to offer consistency across the website. Instructions for progressing through the website are provided on the top of each page.

For **Define,** educators begin their journey by viewing the definition and purpose of a current topic in educational technology, learning the relevant vocabulary, pedagogy, key concepts and ideas.

For **Connect,** educators are able to review a variety of curated digital tools and resources related to teaching and learning about the topic or "Thing", before viewing the ways in which they might ultimately transfer this learned knowledge into their instructional practice.

For **Apply,** educators are provided with ideas for applying the learned information or skill in the classroom or with peers, with generic directions on how to model, share, teach, analyze, design, integrate, assess, and/or advocate about that "Thing."

Included for each "Thing" is a Reflection Guide template, to be filled in by teachers as they work their way through the three sections: Define, Connect, Apply.

ISTE SEAL OF ALIGNMENT REVIEW

Product: *21Things4Educators*
Organization: Macomb Intermediate School District
Date of Award: April 2021

REVIEW METHODOLOGY

ISTE Seal of Alignment reviews are conducted by a panel of education and instructional experts. Reviewers use data collected both separately and collectively to determine how a solution addresses specific elements described in each of the indicators of the ISTE Standards. Special instruments are used by reviewers to collect data on potential alignment across all resource materials. Alignment is determined based on the extent to which all or some of specific elements are addressed within the materials. Reviewers conduct regular calibrations to assure the validity and reliability of the results and final review findings are combined for an overall score for alignment on each individual indicator.

During the review process for *21Things4Educators*, reviewers:

- Collected data on when and how each activity addressed specific skills and knowledge described in the ISTE Standards for Educators at either a foundational or applied level.
- Compiled findings to determine overall alignment across all ISTE Educator standards and indicators.
- Used aggregate findings to form the basis of the overall alignment results.

SCOPE OF REVIEW

The *21Things4Educators* website was reviewed for alignment against the ISTE Standards for Educators as an online learning resource to be used by teachers independent of a course or district-led professional development program. ISTE reviewers examined all the materials provided to teachers at the *21Things4Educators* website for all 21 educational technology "Things," examining the resources and expectations for each Thing's three sections: Define, Connect, and Apply.

For each "Thing," a decision was made about whether or not there was alignment with one or more indicators for one or more of the ISTE Standards for Educators. If ISTE reviewers felt there was alignment, then a decision was also made concerning whether the focus and instruction for that "Thing" was at the Foundational/Readiness Level and/or the Proficiency/Applied Level. Decisions for each "Thing" were recorded, along with a statement of findings to support the decision.

REVIEW FINDINGS

The ISTE Standards can be aligned at the following levels:

- Foundational - Resources and activities aligned at the *foundational* level primarily focus on skills and knowledge that facilitate skill acquisition to eventually meet ISTE Standard indicators.
- Applied – Resources and activities aligned at the *applied* level primarily focus on practical, real-world, and/or relevant opportunities to practice the skills and knowledge learned in the curriculum.

21Things4Educators was found to align to the ISTE Standards for Educators in the following areas:

ISTE STANDARDS FOR EDUCATORS

	Standard 1 **Learner**	Standard 2 **Leader**	Standard 3 **Citizen**	Standard 4 **Collaborator**	Standard 5 **Designer**	Standard 6 **Facilitator**	Standard 7 **Analyst**
Indicator A							
Indicator B							
Indicator C							
Indicator D							

Foundational resources and activities focus primarily on knowledge that facilitates skills acquisition to eventually meet ISTE Standards indicators.

Applied resources and activities focus primarily on practical, real-world and/or relevant opportunities to practice the skills and knowledge learned in the curriculum.

21Things4Educators was found to address the ISTE Standards for Educators in the following ways:

ISTE STANDARD	FOUNDATIONAL FINDING STATEMENT
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.	
1.a. Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.	The structure and content of the *21Things4Educator* website is designed so that teachers and other educators can pursue professional development related to educational technology in areas of interest or need. *21Things4Educator* is a great resource for teachers who have set their own professional learning goals. The structure and content of the *21Things4Educator* website is also designed to support teacher exploration and application of current pedagogical approaches supported by or enhanced with digital technologies.
1.b. Pursue professional interests by creating and actively participating in local and global learning networks.	
1.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.	

2.a. Shape, advance and accelerate a shared vision for empowered learning with technology by engaging with education stakeholders.	
2.b. Advocate for equitable access to educational technology, digital content and learning opportunities to meet the diverse needs of all students.	
2.c. Model for colleagues the identification, exploration, evaluation, curation and adoption of new digital resources and tools for learning.	In the Apply section of each Thing, one of the application options is labeled Model. The text instructs teachers to: *Create a digital artifact about how to incorporate this "Thing" in the classroom or to improve professional practice. You may use any platform, process, or product to portray your message. Share it with colleagues.*
3. Citizen: Educators inspire students to positively contribute to and responsibly participate in the digital world.	
3.a. Create experiences for learners to make positive, socially responsible contributions and exhibit empathetic behavior online that build relationships and community.	Teachers are provided with resources for understanding the history of digital citizenship and the current emphasis on how to be a good citizen online. Included is the ISTE resource showing parallels between good citizenship and good online citizenship. Teachers are introduced to the three roles for good digital citizens: (1) Digital Agent (advocates for equal digital rights, and respects rights of other); (2) Digital Self (mindful of physical & mental health and leverages digital tools for collaboration; and (3) Digital Interactor (communicates and acts with empathy and authenticity.) As an application activity teacher could choose to create lesson plans that provide students with experiences in digital citizenship.

3.b. Establish a learning culture that promotes curiosity and critical examination of online resources and fosters digital literacy and media fluency.	Educators are presented with information about search strategies and web evaluation strategies designed to encourage students to think critically about online content. Educators are asked to consider components that encourage critical thinking while searching on the Internet as they design lessons for digital learning.
3.c. Mentor students in safe, legal and ethical practices with digital tools and the protection of intellectual rights and property.	Educators are provided with links to resources for teaching about safe and legal practices online, including ISTE's videos for students about appropriate online behavior and intellectual property rights. Educators are presented with resources that show how digital images are stolen and why pirated images are a problem. They are tasked with sharing these resources with students, so they learn the importance of original work. Educators are presented with resources and online activities for lessons that focus on the importance of protecting intellectual rights.
3.d. Model and promote management of personal data and digital identity and protect student data privacy.	Educators are provided with resources for teaching the importance of protecting one's identity online, including ISTE's videos for students about digital privacy and how individuals leave a digital footprint. Educators are provided with information about laws designed to protect children's privacy online (e.g., FERPA, COPPA) and digital tools for protecting anonymity (e.g., password managers, VPN). They are also provided with tips for helping students protect their identities online.
4. Collaborator: Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.	
4.a. Dedicate planning time to collaborate with colleagues to create authentic learning experiences that leverage technology.	Educators are provided with links to tools that can increase their productivity through collection tasks such as social bookmarking, website annotation and virtual notebooks; organization tasks to help with time management, performance tasks to sync apps together; and communication tasks to separate communication by group. Educators are

	encouraged to share these productivity ideas with colleagues and interact with their PLN.
4.b. Collaborate and co-learn with students to discover and use new digital resources and diagnose and troubleshoot technology issues, constraints and calculated risks.	Educators are presented with the educational technology necessary to facilitate online group work and collaboration among students through synchronous and asynchronous instruction. Educators are encouraged to utilize virtual field trips, FlipGrid and Digital Projects during asynchronous instruction, and Skype, Zoom and video chat during synchronous instruction to collaborate globally. Instructions are provided so the teachers can take part in these activities on their own time.
4.c. Use collaborative tools to expand students' authentic, real-world learning experiences by engaging virtually with experts, teams and students, locally and globally.	Educators are presented with links to collaborative educational technology tools to facilitate communication with global partners, such as Skype in the Classroom and PenPal Schools. Rules for facilitating international collaboration among students and colleagues are stipulated, along with websites to find a global partner to initiative the partnership. A generic step-by-step guide on how to set up the collaboration or to design the learning environment with the global partner is provided to assist the educator in getting started. Collaborative Projects through the Sustainable Development Goals, among other resources, are provided to encourage authentic learning and collaboration.
4.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.	

5.a. Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.	Educators are provided with information about Universal Design for Learning as an instructional approach that seeks to personalize learning experiences and accommodate learner differences. Included are specific digital tools and resources that can be used to provide alternative means of representing information to students and alternative ways for students to engage with information presented. Educators are provided with an introduction to assistive technology tools and resources designed to meet the special learning needs of students physical and/or sensory limitations, including built-in accessibility features of various hardware platforms such as screen readers, sticky keys, and audio descriptions; as well as online resources such as Texthelp and Bookshare. Educators are provided guidance in creating Choice boards for differentiated instruction, and to foster personalized independent learning. Educators are shown how student choice lends itself to personalized learning through flexible environments, personal learning paths and the creation of learner profiles. The creation process for digital storytelling is explained with step-by-step instructions for the educator to adapt and personalize learning experiences for students. The elements and process of Digital Storytelling are detailed for teachers to adapt for classroom use. Although teachers are not asked to submit a plan or project outline for their own digital storytelling lesson, they are given the guidelines to create one. Educators are presented with the 7 models for blended learning, along with the tools to lesson planning through technology, including a blended learning lesson plan template for the teachers to utilize to plan personalized lessons for students. Educators are encouraged to download the template to plan a future blended learning lesson.

5.b. Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.	Educators are presented with a link to a blended learning lesson plan template that has an area to fill in content area standards, stipulate digital tools, and authentic learning activities, but a step-by-step guide for planning and implementation of the lesson plan are not provided. Educators are provided with information and resources to design and implement technology-supported interactive learning experiences in multiple content areas. In addition, they are introduced to websites and online interactives designed to maximize active learning across a wide variety of curriculum topics and skills.
5.c. Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.	Educators are provided a 5-step guide for creating a digital storytelling assignment. They are given links to websites that will aid them in preparing the lesson, elaborating the content, sharing the storyboards and personalizing the learning with choice boards. Educators are also provided with options for deepening blended learning design through the SAMR (redefinition, modification, augmentation and substitution) Framework and TPACK (technological, pedagogical, and content knowledge), among others. Teachers are asked to reflect on several questions while building the blended learning environment on their own time.
6. Facilitator: Educators facilitate learning with technology to support student achievement of the 2016 ISTE Standards for Students.	
6.a. Foster a culture where students take ownership of their learning goals and outcomes in both independent and group settings	Educators are shown how the SAMR framework for technology integration can be utilized as a tool for students to direct their own learning, through the creation of slide decks, videos and eventually a prototype for an engineering project. Teachers are directed to use this model as a means for students to take ownership over their learning and are given instructions on how to create a lesson using the framework as a guide.

6.b. Manage the use of technology and student learning strategies in digital platforms, virtual environments, hands-on makerspaces or in the field.	Educators are instructed on how to use the various LMSs in K-12 schools to create personalized virtual learning environments. Teachers are asked to consider the following platforms: Schoology, Apple, Moodle, Edmodo and Blackboard, along with several blog pages. Educators are asked to use video and audio websites, such as YouTube and podcasts, as resources that promote accessibility in the classroom for students with disabilities, thereby providing students the access to content through varied means. Educators learn about the 21st Century skills and design thinking elements. Many websites to support the practice of lesson design are linked for viewing and ultimately implementation in the classroom. The educator is presented with student learning strategies in a digital platform, with instructions for implantation.
6.c. Create learning opportunities that challenge students to use a design process and computational thinking to innovate and solve problems.	Educators learn about the 21st Century skills and design thinking elements. YouTube video links show classroom interactions where design thinking is present, as an example of how a lesson created around this topic would look in action. Educators are supplied with resources and frameworks to build a lesson to encourage students to use the design process to solve problems. Educators are presented with resources and website links that encourage them to combine computational thinking with design thinking to create innovative lessons. They are taught the concepts of Decomposition, Pattern Recognition, Abstraction and Algorithms in computational thinking, although they are not instructed on how to implement these concepts.
6.d. Model and nurture creativity and creative expression to communicate ideas, knowledge or connections.	Teachers are tasked with creating Choice boards for students in order to instill critical thinking, creativity, demonstrate personalized learning and allow them varied avenues in demonstrating knowledge of a content area. Teachers are encouraged to make Creative Communicator lessons which allow students to have their choice in how they present their knowledge by using animations, audio recordings, cartoons

	and infographics. A rubric for teachers to use with students is provided.
7. **Analyst: Educators understand and use data to drive their instruction and support students in achieving their learning goals.**	
7.a. Provide alternative ways for students to demonstrate competency and reflect on their learning using technology.	Educators are provided with information about Universal Design for Learning as an approach to meet individual student needs, including specific digital tools and resources that can be used to provide alternative ways for students to show or express what they have learned.
7.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.	Educators are provided with the tools to create online assessments, and to use the data from these assessments to inform instruction throughout the year. Educators are provided websites to assist in differentiating the digital formative and summative assessments to meet the learners needs, such as poll everywhere, google form and Microsoft forms. Educators are provided with a “tool evaluation template” to maintain data on the evaluations of the tools they use in the classroom throughout the year.
7.c. Use assessment data to guide progress and communicate with students, parents and education stakeholders to build student self-direction.	

CONCLUSION

To summarize, ISTE Reviewers examined the instructional materials and performance expectations for twenty-one professional development topics offered to educators through the website known as *21Things4Educators*. Each "Thing" was examined for the extent to which and the ways in which it aligned with one or more of the ISTE Standards for Educators, with specific attention to the listed indicators for each standard. In addition, for things found to be aligned with one or more Indicator of the ISTE Standards, ISTE Reviewers examined the instructional materials and performance expectations to determine whether that alignment was at the Foundational Level or the Applied Level.

This resource offers educators an extensive teacher-directed professional learning suite to support any educator in implementing the ISTE Standards for Students in their classroom. In addition, the *21Things4Educators* and professional development modules support continued professional growth in enhancing teaching practice and setting personal professional goals.