TechYES - Project-based Learning and Authentic Assessment

TechYES offers a unique assessment strategy for technology literacy. Based on decades of research on project-based learning and authentic assessment, TechYES is designed so that these principles are easy to understand and implement.

TechYES Meets New ISTE NETS Standards

In 2007, ISTE revised the NETS-S (Standards for Students). The revision added a focus on creativity, and lessened the focus on simply learning a list of tools and applications. The new ISTE NETS standards ask students to "demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology."

We believe that student projects are the only way to meet this criteria, and TechYES is the only structured program to help schools achieve this.

On this page:

Authentic Assessment

In TechYES, students take on the major responsibility for becoming technologically proficient by creating projects and taking part in assessment activities. The TechYES Student Guide has been carefully designed to lead the student through the project process in a student-friendly way. TechYES requires a student to effectively use real technology tools to complete two projects meaningful to him or her. The student uses the criteria in the Student Guide to plan, design, build and share their projects and also to self-assess whether they have met the criteria.

As part of TechYES, a structured peer-mentoring program assists the teacher or advisor and provides student leadership opportunities that serve to give the student more feedback and help with their projects. The students, peer mentors, and the adult advisors all participate in assessment to maximize learning opportunities. By providing the student with immediate feedback on projects, authentic assessment helps students correct their mistakes in real time. Instead of a grade on a test, students can learn, grow, and experience the satisfaction of a job well done.

How TechYES Projects Meet ISTE NETS Standards

TechYES students are required to use technology in four different ways as they plan and develop their projects. These criteria are explained in age-appropriate ways in the Student Guide, with many examples and ideas for how to fulfill them. These criteria are correlated to the ISTE NETS Standards for Students (2007 Refresh version) with a full explanation in the Implementation Guide. Download Correlation Matrix (PDF)

Students demonstrate their fulfillment of the ISTE NETS standards in two ways:

- Create innovative, personal projects showing creativity (Standard 1)

- Plan, design, build and share projects that yield direct evidence bearing on Standards 2, 3, 4, and 6
- Verify that they have addressed matters involving Standards 3 & 5 (Digital Citizenship, Research and Information Fluency)

In order for students to earn TechYES Certification, their projects must demonstrate the effective use of technology in relation to four criteria: **gather, organize, construct,** and **share.** Each criteria encompasses one or more of the ISTE standards. In the following list, the questions that accompany criteria are ones a student seeks to answer during the completion of a project. The typical technology skill attached to the criteria illustrates one example of a skill a student might use.

GATHER (ISTE Standards 2, 3, 4)

- What information do I want? How and where can I find it? Who can help me?
- Typical technology skill - that of searching the World Wide Web.

ORGANIZE (ISTE Standards 3, 4)

- In what form will I compile and organize information and resources?
- Typical technological skill - that of preparing a spreadsheet or keeping track of copyrights and citations.

CONSTRUCT (ISTE Standard 4, 6)

- How do I find the best way to meet my project goals with technology tools? How do I solve the problems that arise as I build something new? What electronic technology will be useful in creating the project?
- Typical technological skill - that of building an interactive web site using appropriate software tools.

SHARE (ISTE Standard 2, 4)

- Who is my audience and how can I meet their needs? How can I share this project with others? How is it useful to others?
- Typical technological skill - sending email, saving files, having users play a game they created, authoring CD-ROMs, making electronic presentations.

Creativity: In addition to these four criteria, TechYES projects must be unique and creative. Students must answer, "How does it differ from what other people have done? What is new about my project?" Throughout the project process, TechYES students are asked to demonstrate that they constructed the project themselves and understand the processes and technology used to create their projects. In 2007, ISTE refreshed the NETS standards to include "Creativity and Innovation" as Standard #1. We are proud that TechYES has always had creativity as a criteria for TechYES projects.

TechYES is correlated to the ISTE NETs standards for students in middle school (2007 refresh). Many states use the ISTE NETs standards either in whole or as a reference for their own technology standards for students.

To read more about this correlation: Download Correlation Matrix (PDF)

At Barber Middle School in Cobb County, GA, assistant principal Bob Downes reports that his TechYES students passed the state tech literacy test (TLA) at a greater rate than

Alternative to Standardized Tests

TechYES offers educators an alternative to technology testing that focuses on rote memorization and testing out-of-context skills. Relying on decades of research on project-based learning, TechYES creates a structured approach to meeting technology standards. TechYES allows students to show their technology proficiency using real technology to solve real problems. Standardized technology skills testing, even when "performance-based", creates false confidence in what students can do because these tests are based on imaginary generic applications that the students do not use in their real lives.

TechYES is not just assessment -- it provides educators with a way to offer students high-quality, empowering experiences with technology.

the school or county average. Barber TechYES students passed at a 71% rate. The school pass rate was 52% and the county rate was 63%. TechYES appears in the Georgia Technology Literacy Assessment Toolkit as the only project-based method for teaching and assessing student technology literacy.

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FAQs - Questions & Answers about TechYES and Assessment

Where is the test? Where is the checklist of tech skills?
Some educators looking at TechYES may be wondering where we hid the list of technology skills every eighth grader should master. Look no further. There is no such checklist.

Tech skills checklists are like a camel--a horse designed by committee. When faced with the challenge of preparing students to be technologically literate by the end of eighth grade, teams of well-meaning adults embark on a process of determining what an eighth grader should know. This inevitably leads to the construction of a bottomless pit of arcane tech skills in checklist form.

Schools have the option of purchasing curriculum that turns using scrollbars into a four-year scope and sequence. Proclamations that all children will use a mouse lead to the inevitable questions, "One or two button?" "With or without a scrollwheel?" Worst of all, such curricular approaches are needlessly technocentric. The focus is on the learning of isolated tech skills rather than on the application of tech skills to learn everything else.

How do I know what the students know if there is no test?
TechYES embodies a belief that teachers are best suited to make decisions regarding the educational needs of their students. No standardized test can replace a teacher with an intimate knowledge of his or her students. Peer editing and collaboration contribute to a productive learning context for students and frees teachers from extra marking. TechYES models and embraces peer editing in an authentic context.

Checklists offer students a minimum standard they must meet to satisfy someone else's assignment. TechYES students demonstrate technological fluency by constructing personally meaningful projects. These projects value audience and purpose, a quality lacking in more traditional forms of assessment.

By following the structure of the required components of the projects found in the Student Guide, students will create complex, appropriate projects that meet and exceed the ISTE NETs standards for students.

This "authentic assessment" seems time consuming, is it really worth it?
Extensive research done with authentic assessment practices shows that this type of assessment gives a far better picture of actual student understanding than typical testing practices. In addition, the immediate, personalized feedback that results from authentic assessment means that the student can see where they need to improve and can fix the problems.

In fact, because there is no time needed to be set aside for testing and test review, authentic assessment will save time by focusing on the actual work students are doing.

The TechYES Implementation Guide contains a chapter on the research supporting project-based learning and authentic assessment, and several chapters on how to do this type of assessment.

I've heard about online tech literacy assessments that are performance-based, won't they do the job?
Look carefully at the performance that is being asked of students. Dragging and dropping is not performance. A student should not only be able to show that they can make the title of a word processing document bold, but why they might want to do that. TechYES projects show that a student can make good choices in a technically complex task where there can be many correct answers and many motivations. Standardized assessment, even when online, even when labeled "authentic," reduces tech literacy to its lowest form. It asks too little of students, and takes time and money away from students using real technology in their schoolwork and life. Check for yourself whether these assessments go beyond vocabulary tests and clicking on pictures to identify computer parts.

- Asking a student to perform a scripted action in a simulated software environment will not help that student when they need to use a real software application to do real work.
- Standardized assessment tests often focus on office-suite software applications, leaving most of the most interesting technology out completely.
- Internet safety and ethics have to be practiced in real life to make sure students understand it. If all they do is take "safety quizzes" but never have the chance to do their own research and learn proper citations, it's a waste of time.
- ISTE NETS standard #1 asks that students demonstrate creativity and innovation in their work. Canned tests cannot show creativity.
- Standardized tech literacy assessment threatens to undo decades of work integrating technology into the curriculum. Unfortunately, this type of assessment will "wag the dog" of what students are expected to do with technology, and the result will be teaching to the test, instead of teaching the 21st century skills that today's students need.

How does TechYES deal with ISTE standard #5 - Digital Citizenship?
In TechYES, the first two chapters of the student guide teach Internet safety and ethics, copyright, searching and citing sources. These are dealt with before the project process starts, and therefore are assessed separately. For schools or organizations wishing to go deeper into these areas, TechYES has partnered with CyberSmart! The CyberSmart! full middle school curriculum is found on the TechYES CD-ROM in the Implementation Guide and can be used as needed by the TechYES Advisor.

Can I add other evaluations (such as keyboarding) to the program?
Yes, the local advisor or teacher is in full control of the certification process. Registering online at the TechYES web portal gives the teacher full access to tools to request certificates for qualified students. If there are additional local requirements that must be completed before you decide that TechYES certification is given, you simply ask for certificates when your students have satisfied those conditions.

I have to give a mandated tech literacy test - can I still use TechYES?
Yes. Tests are not the only part of a well-rounded technology literacy program. You still have to decide how students will be prepared for the test, and what you will do with the students who do not pass. Most educators do not believe that technology use should end on test day, but should be integrated into all subjects and classes. A technology literacy program has to fulfill these needs as well, and TechYES will help your meet those needs in a student-centered, project-based way.

My state uses different standards than the ISTE NETs, can I still use TechYES?
Most states in the United States have adopted, adapted, or referenced the ISTE NETs standards in building their own technology standards. Since local control is at the heart of the TechYES process, there is no problem with adapting the certification requirements to meet these standards.