

Technology Use Is Not Enough

Students are changing...

"We don't have to wait until we're grown up to work together internationally. We can do it right now. Kids already know how to use the tools; we just need the teachers to set up the projects and let us go!"

Chloe, Age 11

Society is changing...

"Every young person will need to use ICT (Information and Communication Technology) in many different ways in their adult lives, in order to participate fully in a modern society."

Are Students Ready for a Technology-Rich World? Organisation for Economic Co-operation and Development (OECD, 2006)

Our world is changing...

"We've progressed from a society of farmers to a society of factory workers to a society of knowledge workers. And now we're progressing yet again—to a society of creators and empathisers, of pattern recognisers and meaning makers."

A Whole New Mind, Daniel H. Pink (2006)

Education must change...

We are reminded at the release of each new report on workplace readiness and the emerging global economy that foundational technology skills—especially competence with information and communication technologies (ICT)—are increasingly important for our students preparing to work, live, and contribute to the social and civic fabric of their communities. What we have learned in the two decades of dramatically increasing penetration of these technologies into our society is that these foundational ICT skills are not sufficient. As with other basic skills, we know that unless students are given the opportunity and charged with the expectation to *apply these basics* in authentic, integrated ways to solve problems, complete projects and creatively extend their abilities, then mastering these basics will not really make much difference in the long run. So, although basic skills, concepts and knowledge are prerequisite to fully participating in society as our young learners become adults, they do not sufficiently equip future workers, leaders and contributing global citizens.

For that reason, the ISTE National Educational Technology Standards for Students (NETS•S) identify several higher order skills and digital citizenship as critical if we are to truly provide students the opportunity to learn effectively for a lifetime and live productively in our emerging global society and increasingly digital world.

Then and Now

The ISTE NETS for Students

1998

Basic Operations and Concepts
Social, Ethical and Human Issues
Technology Productivity Tools
Technology Communications Tools
Technology Research Tools
Technology Problem Solving and Decision Making Tools

2007

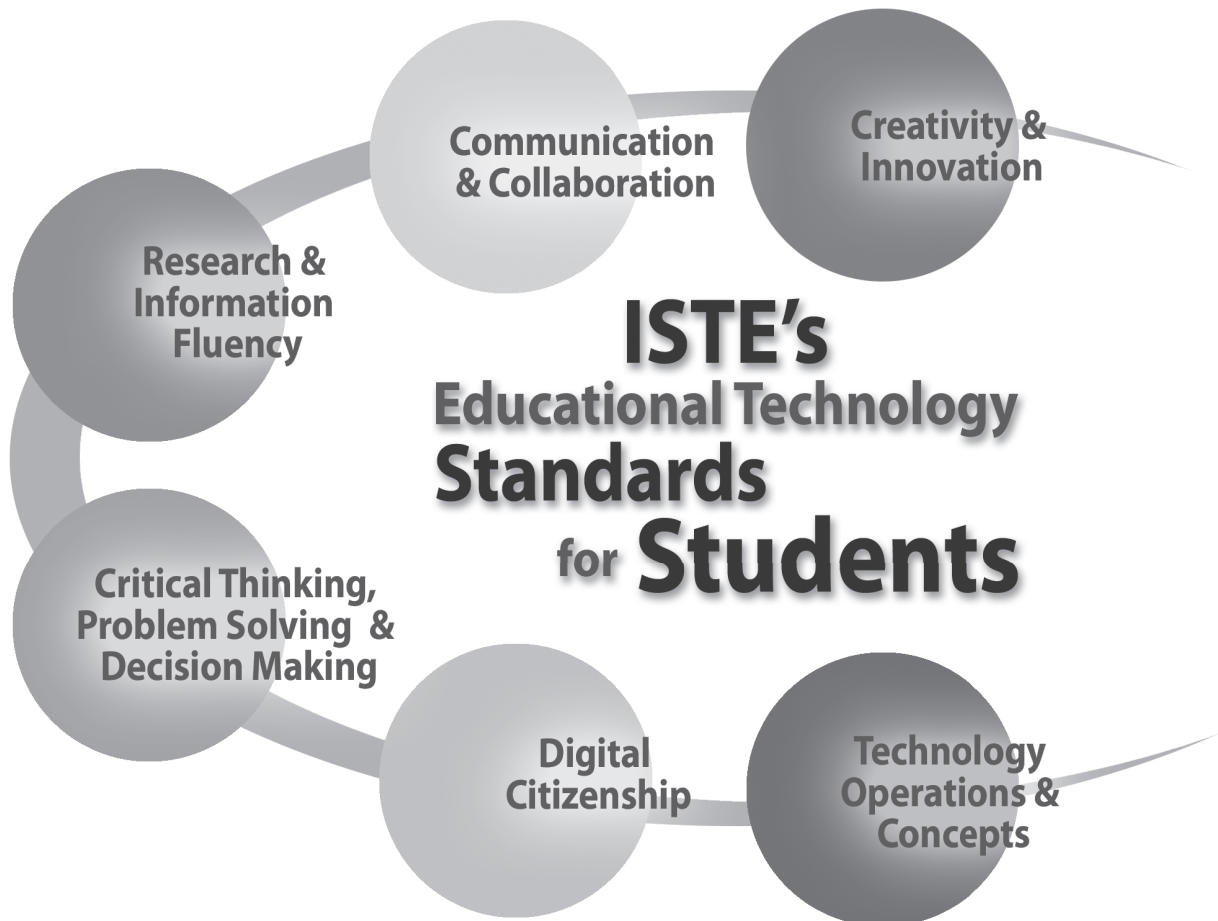
Creativity and Innovation
Communication and Collaboration
Research and Information Fluency
Critical Thinking, Problem Solving
and Decision Making
Digital Citizenship
Technology Operations and Concepts

Adapting the Refreshed NETS•S for Global Use

Regardless of where you live, advances in technology are having an effect on your life. In places where simple access is still a burning issue, you are probably trying to identify ways to develop and launch a reliable infrastructure so that students may begin mastering basic technology skills. In places where infrastructure is no longer a concern, you are most likely grappling with how to give your students a competitive edge in this new global society. In any case, the NETS•S may be adapted to help meet your educational needs. Here are a few steps you can take to get started:

1. Secure the support of essential stakeholders.
2. If you don't have existing technology (ICT) standards and technology is not incorporated into your content standards, use the ISTE NETS•S as a foundation.
3. If you already have national technology standards or content standards that incorporate technology, compare them with the ISTE NETS•S to identify gaps.
4. Review your content standards to identify opportunities for integration with ISTE NET•S or to determine if all the NETS•S have been addressed.
5. Review the international scenarios found in the Profiles section of this booklet and gather your own examples of exemplary technology use.
6. Use local experts from within your own community or country who support instructional technology use.
7. When it is time to localise the ISTE NETS•S, you will need adequate resources to:
 - a. obtain accurate translations of the standards and profiles,
 - b. put them into the context of your culture, and
 - c. address the needs of your teachers and students.

**What students should know and be able to do
to learn effectively and live productively
in an increasingly digital world...**



NETS•S Organisation

The technology standards for students are divided into six broad categories. A brief standard statement follows each category. The four performance indicators (a–d) for each standard provide specific outcomes to be measured. The Profiles for Technology Literate Students (see pp. 10–23) provide examples of student performances at various ages and year levels.

Scenarios Years P–2

Scenario 2

Retell Me a Story

Year Levels: 1–2

Technology Standards: 1, 2, 6

Content Area: English

Teacher-Librarian: Suzanne Vanderpool

School: Mossman State School

Location: Mossman, Queensland, Australia

One of the best ways to help young students master reading skills such as vocabulary, sequencing, characterisation and plot line is to have them retell familiar stories. When primary-age students visit the school library at Mossman State School, teacher-librarian Suzanne Vanderpool takes this idea a step further by engaging students in retelling animated fairytales using a digital paint program and presentation software.

After viewing a sample animated fairytale, students are divided into working groups of up to eight members. Once they've selected the fairytale they will retell, they make a list of the characters and settings in the story, which Vanderpool saves as a word processing document for later use. Then each student selects one or more characters or settings to draw, using the digital paint program. Vanderpool imports the students' drawings into a digital photo editor so they can be easily added to digital presentation slides.

Next, the students and Vanderpool walk through the process of inserting the drawings onto presentation slides and adding animations. Although she does most of the actual graphics manipulation, students are actively engaged in discussing the steps involved and deciding where each drawing should be placed. By the end of this activity, students are taking turns completing simple insertion or animation tasks. Once the slides and animations are completed, text boxes and text are added to each slide, again with student input.

In the culminating activity, each group shares its animated fairytale with the rest of the class. The files are kept as a resource for other classes. This project has been so successful with younger students that Vanderpool now uses their files as samples for older students (ages 11–12) who are retelling stories on their own.

Technology in Education Is Global

One hundred primary-age students in Belgium and Japan use artwork and the Internet to bridge their cultures and learn about one another through a project called (E) art(h)link. Choosing from eight different themes (light, darkness, movement, rest, points, lines, shapes and signs), students use a paint program to create an interactive, Web-based art gallery and learn together.