



# 21st Century eLearning Soars with Tablet Computers

## Overview

Schools worldwide are undergoing an exciting, and sometimes challenging, metamorphosis as technology becomes an integral part of everyday teaching and learning. The impact is everywhere—from first graders exploring habitat videos on the Internet to twelfth graders collaborating on research with local or national experts using specialized software applications. **For school administrators and IT managers, one decision stands out: What is the best teaching and learning platform?** What kind of computing system will support the wide range of ages and activities, while being cost-effective, manageable, and secure? These education decision makers are discovering the affordable, versatile, Tablet PC.



## What Makes Tablet PCs Different

What distinguishes Tablet PCs from traditional notebooks or netbooks is their ability to adapt instantly from a keyboard-driven screen to a pen- or stylus-based Tablet. This flexibility widens the range of computer-based activity. The expanded capability makes Tablet PCs an important tool across the curriculum, supporting science, math, and engineering coursework, in addition to providing the toolset for reading, writing, online research, and content creation and viewing. Students are using Tablet PCs to draw and annotate diagrams, solve math equations, design structures, and conduct field work.

## Reasons to Choose Tablet PCs

Tablet PCs are designed for real classrooms and 21st century learning—from problem solving and critical thinking to content creation and collaboration. Full-featured, and with a versatile combination of keyboard and digital pen, Tablets support the full repertoire of learning and teaching, for example:

- **Language Arts:** Emergent readers can trace letters while hearing them enunciated. All grade levels can take notes, highlight and annotate reading assignments and worksheets, and create story and concept maps.
- **Math and Science:** Students can complete equations, create graphs and diagrams, predict trends, record observations in class or in the field, illustrate concepts, create models, unpack sophisticated diagrams pushed to Tablets by the teacher, and follow hot-links to deeper content.
- **Learning:** Tablet PCs supports improved retention, organization, capture of video/audio while taking notes, sharing class work, collaboration, and peer review.
- **Teaching:** Teachers can deliver curriculum through PPT\* presentations, Word\* docs, and spreadsheets; mark up digital class work and homework; pull in and annotate student work on-the-fly, demonstrating multiple solutions to the same problem.
- **Save Time and Money:** Teachers can use digital forms, convert digital notes to text without having to retype, and reduce paper, supply, and copying costs. All of this also supports learning continuity. For instance, on a snow day students can access assignments, or after an absence, they can review a teacher's notes.
- **Access:** Teachers can access a wide range of free, compatible software applications for education.
- **Performance:** Tablet PCs help deliver an engaging learning experience with rich, multimedia digital content.

**Bottom line:** The convertible Tablet form factor best accommodates the wide range of complex repertoires demanded by students and teachers. By providing ink capacity, coupled with a keyboard, it represents the ultimate learning and teaching platform.

## K-12: Tablet PCs Support Full-Spectrum Learning

St. Paul Academy and Summit School (SPA) in Minnesota began its exploration of Tablet PC benefits with a pilot, providing each sixth grade student with an Intel-powered convertible classmate PC. SPA's technology coordinator found the platform, which functions as both a standard notebook and a Tablet, could be acquired for one-third the cost of the traditional business-grade Tablet PCs the school had been using.

The Tablet PCs earned fast acceptance; students liked their size, weight, and durability. Math students created their own virtual notebooks, shared them with their teacher, and collaborated in creative problem solving with other students—all linked to a server and easily accessible by the teacher. As the pilot expands, classmate PC Tablet-enabled learning is being extended to other coursework, including science, language arts, social studies, and foreign languages.

The Tablets have been instrumental in supporting new teaching approaches. For example, SPA's language students practicing Chinese record their oral exercises as MP3 files, which can be accessed by the teacher for review and comment. Young learners make extensive use of interactive websites that take advantage of the touch and Tablet interfaces. For students, it's like having an interactive whiteboard in their backpacks. And for teachers, the convertible classmate PC is a powerful tool for developing meaningful, engaging, and innovative applications.

## Higher Education: Tablet PCs Adopted by Engineers

Faculty at the Virginia Tech College of Engineering are using a powerful mix of Tablet PCs, lectures, labs, digital content, whiteboards, and classroom management tools. A professor walks into class, shares a 3D model across an interactive whiteboard and student Tablet PCs, students annotate the model, the professor makes real-time feedback, and the class heads toward mastery. Says Dr. Scott Hendricks, "Using a Tablet PC and DyKnow\* has transformed the way that I teach. I come to class with professional drawings of all of the structures and bodies that we will analyze during the

lecture that day. At the end of the lecture, each student leaves with a complete set of notes that he has individually tweaked and annotated. The students are very positive on the whole process."

In just four years, Tablet PCs have had a tremendous impact on the learning environment. Classes are more interactive, encouraging participation and engagement. Using the pen stylus, faculty members guide students through the countless diagrams, drawings, and equations integral to engineering study. Documents are shared in real time; drawings and diagrams foster lively dialogue. Students are challenged to problem solve, then project their solutions for class discussion and critique. Active, contextual note-taking supports collaboration with faculty and peers, better recollection, and improved understanding.

Most importantly, in a field dedicated to finding creative solutions to problems, Tablet PCs are enabling both students and faculty to be more creative, and introducing students to a real-world, industry-leading technology experience. As Professor Joe Tront says, "We can encourage the 'what if' questions that are so important in engineering education, and actually explore those questions in real time."

## Selecting the Right Tablet PC

### Grades K-6

Young children need a durable Tablet with a choice of keyboard, touch screen, and stylus. Education purpose-built learning platforms, such as those based on Intel® Atom™ processors, offer a rugged form-factor, full PC functionality with enhanced e-reading capabilities, and energy-efficient performance.

### Grades 7-12

As students mature, the full range of eLearning activities can be experienced on an Intel processor-based Tablet (e.g., Intel® Core™ i5 or Intel® Core™ i7 processors). Available from a variety of solution providers, these Tablets support content consumption, creation, and collaboration, while providing high-quality, energy-efficient performance.

### Teachers

Teachers will want the full capabilities of an Intel® processor-based Tablet (e.g., Intel® Core™ i5 or Intel® Core™ i7 processors). Available from a variety of solution providers, these Tablets support 21st century pedagogy, assessment, and classroom management, while providing high-quality, energy-efficient performance.

To find out more about the potential of Tablet computers for your school system or classroom, speak with a solution provider or Intel representative, or visit [www.intel.com/education](http://www.intel.com/education).

