



# Transforming Education



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# Transforming Education

Turning Classrooms Into Collaborative, Interactive, and Efficient Learning Environments

## Table of Contents

Introduction

How Computer-enabled Classrooms Transform Education

1:1 Environments, Mobile Laptop Carts, 2-3 Students/Computer

Personalized Learning Environments

How Can 1:1 Programs Be Effective?

Classroom Management and Classroom Transformation

How Technology Helps Teachers with Classroom Management

Can Software Help Teachers Manage Classrooms?

Create / Teach / Learn / Assess

How SMART Classroom Suite Improves Student Outcomes

Resources/References



## Introduction

The best technology-enabled classrooms have two things in common: The students are self-directed learners and the teachers are adept at managing their classrooms. Teachers know that maintaining control is exponentially harder when the students are using desktops or laptops. One way for teachers run their classrooms more efficiently and to get the best from their students is by using classroom-management software.

With classroom-management software, teachers can observe every computer screen, take control of one student's computer, allow students to collaborate, or just make sure no one is updating his MySpace page.

And what if that software also included an application that would let teachers create lessons? And how about if it also featured an assessment tool so that teachers could gain immediate insight into student comprehension?

Such a program already exists, and teachers are using it to turn their students into collaborative, engaged, 21st-century learners.

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## How Computer-enabled Classrooms Transform Education

If educators and parents have learned one vital lesson during the last decade, it's this: Every child learns differently. Some are visual learners; some require lessons to be hands-on. Some children need extra time on task; others grasp new material immediately. With one teacher and 20+ students, it's virtually impossible to teach everyone at the same time.

Thanks to technology, teachers no longer have to.

With the appropriate mix of hardware and software—and some professional development for the instructor—a classroom becomes a place in which each child learns at his or her own pace. Students develop into self-directed learners and teachers are able to quickly identify who has mastered the skills and who needs extra help.

Today's teachers must prepare students for the 21st century. We expect them to teach our children how to solve problems, collaborate, and communicate. These digital natives need a new way to learn.

Today's classrooms require a flexible set of tools to inspire extraordinary learning experiences and improve student-learning outcomes. As Mark Hess, principal of Sarah Banks Middle School in Michigan, said in an *Education Week* article, "Integrating technology into the classroom in the year 2010 is no longer an option, it's part of classroom life."



## 1:1 Environments, Mobile Laptop Carts, 2-3 Students/Computer

Personal computing devices—including desktops, laptops, PDAs, smartphones, and tablet PCs—offer numerous benefits to teachers and students. They help teachers personalize learning and help students transcend the four walls of the classroom, taking learning worldwide.

Today, every school has at least one classroom with computers in it for student use, and most media centers include computers as well. In 1995, there was an average of one computer for every 12.1 students; by 2005, it was one computer every 3.8 students.

While many schools strive to set up a 1:1 environment, in which every student has a dedicated wireless device connected to the Internet for use anytime, anywhere, it can be costly and takes a bit of time to implement.

Some schools instead choose to buy a mobile laptop cart that houses several laptops for students to share.

Other schools equip their classrooms with a handful of computers for students to work together in small groups.

Regardless of how your school deploys its computers, the key is for teachers to learn how to use them to maximize the technology investment, improve learning outcomes, and reach every student.



## Personalized Learning Environments

One of the more exciting ways teachers are using technology is to turn their classrooms into personalized learning environments.

In a personalized-learning classroom, instruction is tailored to the needs and interests of each individual student. It is a 21st-century approach that honors and recognizes the unique gifts, skills, passions, and attributes of each child. Teachers in these classrooms develop individualized learning programs to optimize each child's learning potential and success.

Students are taught to understand and address global issues; to work collaboratively with people who represent diverse cultures, religions, and lifestyles; and to understand other nations and cultures, including the use of non-English languages.

Students are also taught to be self-directed learners. A self-directed learner takes the initiative and the responsibility for what occurs. Individuals select, manage, and assess their own learning activities, which can be pursued at any time, in any place, through any means, at any age. Teachers emphasize skills, processes, and systems instead of content coverage and tests.



## How Can 1:1 Programs Be Effective?

For 1:1 (or 1:2 or 1:3) programs to be successful, three essential things must occur.

**Learning must move from teacher-centered to student-centered.**

In a student-centered classroom, the student is able to discover his own learning style. The main principles are:

- The learner has full responsibility for her learning.
- Involvement and participation are necessary for learning.
- The relationship between learners is more equal, promoting growth and development.
- The teacher becomes a facilitator and resource person.
- The learner sees himself differently as a result of the learning experience.

**Students must take charge of their own learning.**

Placing learners at the heart of the learning process means that children learn what is relevant for them in ways that are appropriate.

- Learning is active instead of passive. Students are involved in activities that foster learning, not just sitting or taking notes.
- There is an emphasis on deep learning and understanding.
- Teachers expect students to be responsible and accountable.
- Students have an increased sense of autonomy in their learning process.

### Assessment must be formative and summative.

In self-directed classrooms, teachers should assess students in various ways, observing their work and adapting their teaching style to match what the students are ready to learn. Self-directed learning environments provide opportunities for feedback and improvement throughout the learning process, leading to evaluation and judgment. Assessment for feedback and improvement is referred to as formative assessment; assessment for conclusive evaluation and judgment is referred to as summative assessment.

Formative assessment, which emphasizes feedback to students on their learning, enhances the process. By implementing formative assessment, instructors provide a focus for the student by highlighting her learning gaps and areas to develop. In many classrooms, there is a large gap before students are tested on the material and teachers are surprised and disappointed with the results of that first exam. Formative assessment addresses this problem. Instead of waiting until it's too late, teachers use formative-assessment techniques to discover what students are thinking and learning each day—while there is time to review or re-teach.

Summative assessments determine the level of proficiency reached by the learner. Typically conducted as a class test, it is defined as a quantitative assessment of an ability of an individual to carry out a given task.



## Classroom Management Is Key to a Successful Classroom Transformation

To create a self-directed classroom, a teacher must be adept at classroom management. Effective teaching and learning cannot take place in a poorly managed classroom. If there are no rules and procedures to guide appropriate behavior, both teachers and students suffer.

A well-managed classroom takes a great deal of effort to create—and the person who is most responsible for creating it is the teacher.

One of the latest innovations to help teachers get and keep their classrooms running smoothly is classroom-management software. This software, which was created to boost teacher productivity in computer-enabled classrooms, uses computer-networking functionality to put control into the teacher's hands. Classroom-management software lets teachers monitor technology usage and student activity, keep students on track, give direct support and feedback, and reach every student.



## How Technology Helps Teachers with Classroom Management

In a 1:1 classroom, students have countless distractions at their fingertips. Teachers must engage in several administrative chores including the following:

- getting students' attention
- walking around to make sure everyone is on track
- launching applications on every student device
- getting students to enter correct URLs
- sending files
- helping students who need assistance.

Classroom-management software automates much of these tasks, thereby reducing administrative overhead and letting teachers do what they do best: teach.

Classroom-management software lets teachers do the following:

- Build student communication and problem-solving skills through collaboration
- See thumbnails of all student screens
- Lock student screens
- Take over student computers
- Launch an application or a website on all computers
- Restrict applications students can use
- Take snapshots of student screens
- Broadcast the teacher (or one students') screen to all students

- Restrict Internet access
- Send or receive files
- Chat with a student
- Log off or shut down student computers





## Can Software Help Teachers Manage Classrooms?

SMART Classroom Suite is a tool that combines classroom management with assessment and lesson-creation. It is much more than just a classroom-management package—it is a fully integrated solution that allows teachers to guide and assess the entire class while addressing the needs of individual students.

With SMART Classroom Suite, any computer-enabled classroom can be transformed into a collaborative, interactive, self-directed learning environment. The product combines four of SMART's educational software applications to enhance teaching and accelerate student learning.

SMART Classroom Suite includes SMART Notebook, SMART Sync, SMART Notebook SE (Student Edition), and SMART Response CE. Together, these software applications allow teachers to do everything from creating lessons to assessing students.

In fact, a recent survey from SMART found that teachers using SMART's classroom-management software, SMART Sync save an average of 14 minutes in a 50-minute class.

Here is an example of how a teacher might structure her day using SMART Classroom Suite.

### Create

The day starts with the teacher creating a multimedia lesson activity with SMART Notebook. With SMART Notebook software, teachers have quick access to all lesson material from one convenient location. Intuitive tools and features allow them to easily create, deliver, and manage interactive lessons. They can also instantly add graphics and multimedia content to any assessment or lesson.

When used together, SMART Notebook and SMART Notebook SE give students the ability to create their own interactive assignments and exchange files with their teachers.

### Teach

SMART Sync software helps teachers keep students focused on learning. The classroom-management software provides thumbnail views of all computers in a class—making it easy for teachers to guide learning, and monitor and control student computers.

By combining SMART Sync with SMART Notebook software, teachers can use the curriculum-based content in SMART Notebook to deliver engaging lessons to students individually or as a group.

### Learn

SMART Notebook SE software lets students complete assignments and create their own interactive material using the same SMART Notebook platform their teachers use. Students can also use the software to take notes, save and organize files, and keep track of due dates.

By using SMART Notebook SE with SMART Sync, students can collaborate and communicate with each other and the teacher.

### Assess

SMART Response CE software offers teachers an easy way to discover how well each student understands the material. Teachers can give spontaneous quizzes or planned tests enhanced with images and multimedia content. By using SMART Response CE with SMART Notebook SE, students can easily respond to questions. Teachers instantly see the results, which are automatically tallied and recorded in the built-in gradebook.



### How SMART Classroom Suite Helps Teachers Improve Student Outcomes

1:1 learning focuses on tailoring education to individual needs. SMART Classroom Suite supports this teaching approach by promoting effective classroom management, emphasizing student confidentiality, and enhancing student collaboration.

#### Collaboration

One of the 21st-century skills teachers are stressing these days is collaboration. SMART Classroom Suite's SMART Sync's collaboration feature allows teachers to organize students into small groups to work together on assignments. One especially useful way to take advantage of this feature is to use the think-write-pair-share learning model:

- Think – Students work independently on a task
- Write – Each student individually decides on an answer and digitally submits it
- Pair – Students are randomly divided into groups of two or three
- Share – Students present their ideas to other group members by sharing screens, and they work to come to a consensus. Once each of them agrees on a shared answer, one student submits the file digitally on behalf of the group.

Using the collaboration feature lets teachers improve lesson comprehension and help students to develop teamwork and consensus-building skills.

## Teach

Amy Rothenberg teaches Emergent Technologies at Fort Myers Middle Academy in Florida. She has been using SMART Classroom Suite since 2009.

Here's what she says about using it.

"I can broadcast the desktop of my computer to student computers so they can see what I'm talking about or describing right in front of them. This is particularly helpful for students who *should* be wearing glasses but aren't.

"I can launch websites directly on student computers which saves them time and aggravation, especially for websites that have lots of upper- and lower-case letters or uncommon characters.

"Students can submit their work or files directly to my teacher computer (no need for paper and printing).

Test taking is more efficient and students can get test or quiz results immediately."

Rothenberg really appreciates SMART Classroom Suite's Sync application to assess her students.

"The Assessment feature is a real time and money saver for me and my computer lab. I can send an assessment to the students instantaneously, which saves about 10 minutes because I'm not passing out papers. I can design assessments with pictures, diagrams, and charts—if necessary—and distribute it via the computer. When students click Finish, their quiz or test is automatically graded.

"I get an informative spreadsheet that tells me what answer kids chose so I can determine if I need to re-teach or can move on, and it gives instant test scores so students know immediately how they did.

"I would definitely recommend SMART Classroom Suite to other educators. First, it can be used in a classroom with a few computers or a computer lab with 30+ computers so it is flexible! The benefits to students are many, but I think it's important to note that the use of the SMART Classroom Suite can, when used well, save time, money, allow for a few more teaching moments, get the kids interested and motivated to pay attention, and enhance learning in all content areas."



SMART Notebook—one of the four products that make up SMART Classroom Suite—helps educators take their classrooms to the next level.



## Model Classrooms

SMART recently surveyed nearly 350 users of SMART Sync software. As stated above, they concluded that, on average, the software helps them save an average of 14 minutes in a 50-minute class.

Here are some other time-saving examples:

Administrative Chores in Computer-Enabled Classrooms	Time Saved with SMART Sync
Launching applications on every student device	85%
Logging students off	84%
Getting students to enter the correct URLs into their browsers	82%
Sending files to students	80%
Getting students' attention during class	77%
Walking around the class to make sure students stay on task	72%

Reducing administrative overhead means that teachers can have greater productivity. They can manage their time more efficiently, cover material in greater depth, and spend more time doing assessments to ensure that all students are on track. They can answer more questions and do an overall better job making sure everyone is learning.





## Resources/References

[SMART Classroom Suite](#)

[One-to-One Institute](#)

[Special Report: \*More Time to Learn\*: Boost teacher productivity and free up more learning time with SMART Sync classroom management software](#)

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