A background image of a classroom. In the foreground, two students are looking at a tablet displaying a map. In the background, a teacher is standing near a whiteboard, and other students are seated at desks. The text is overlaid on this image.

THE REAL WORLD GUIDE TO IMPLEMENTING CLASSROOM TECHNOLOGY

SMART[®]

An ebook by SMART

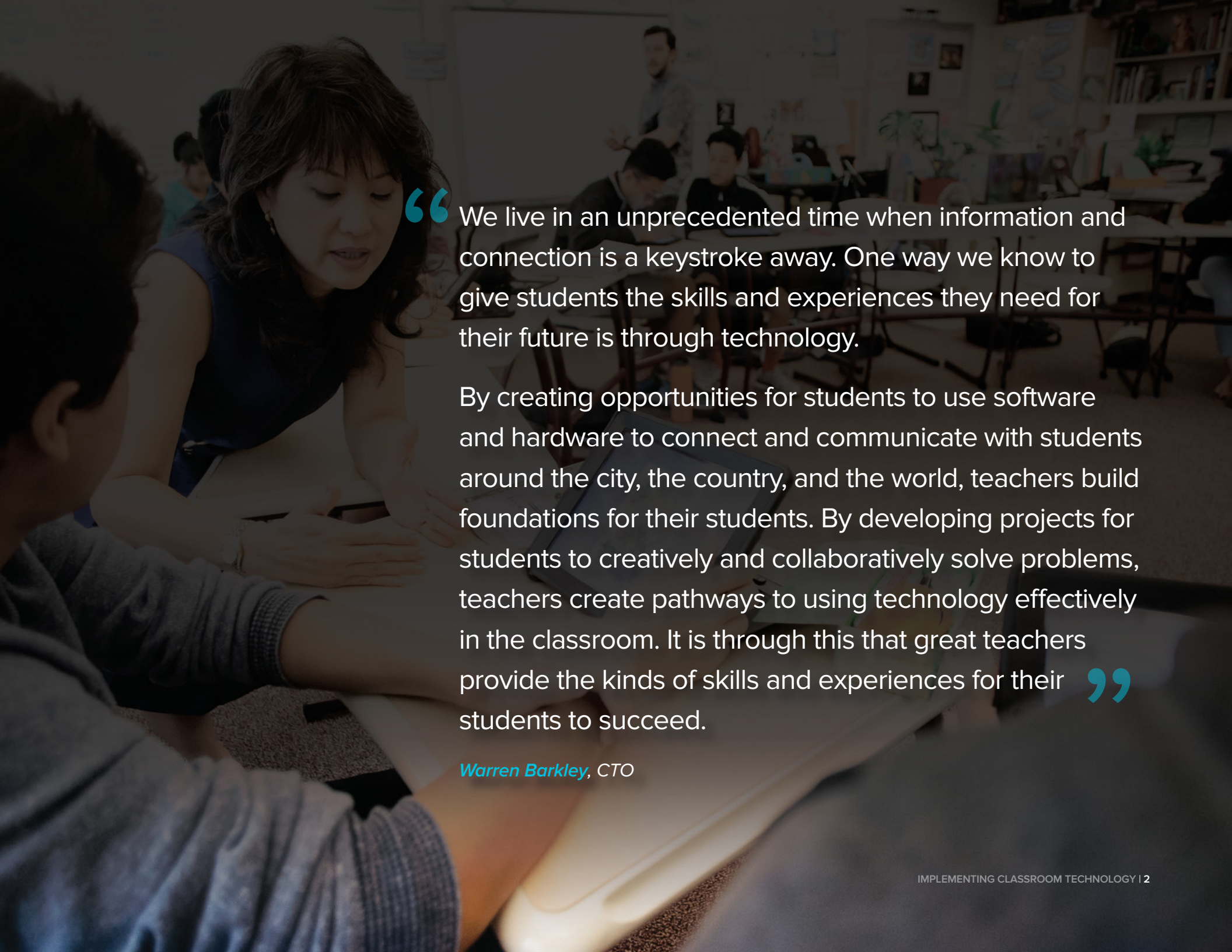


WHAT YOU'LL FIND INSIDE

- PAGE 1** **01. TEACHING OUR DIGITAL NATIVES: IT'S THE PROCESS, NOT THE DEVICE**
Technology in the Classroom
- PAGE 4** **02. PREPARING STUDENTS FOR THIS CENTURY**
Ways to Ignite Student Learning with Collaboration
- PAGE 9** **03. GETTING STARTED: EDUCATION BEYOND THE FOUR WALLS**
How to Get Started Incorporating Technology in Your Classroom
Successful Interactive Technology Integration, the SAMR Way
- PAGE 18** **04. WHAT THE FUTURE BRINGS: BOOSTING STUDENT SUCCESS**
The Classroom of the Future
Where the Real Magic Lives
- PAGE 23** **05. ABOUT SMART**



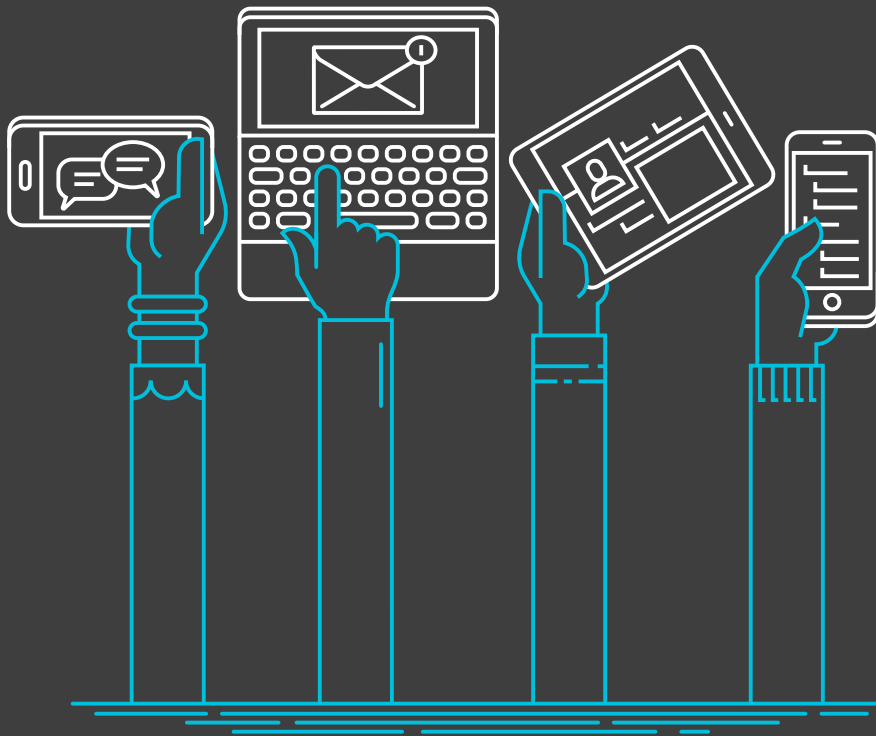
01. TEACHING OUR DIGITAL NATIVES: IT'S THE PROCESS, NOT THE DEVICE

A photograph of a classroom scene. In the foreground, a woman with dark, wavy hair, wearing a dark blue sleeveless top, is leaning over a desk, looking at a tablet. A young man with dark hair, wearing a grey long-sleeved shirt, is also at the desk, looking at the tablet. In the background, other students are seated at desks, and a teacher is standing and talking to them. The classroom has bookshelves and various educational materials on the walls.

“ We live in an unprecedented time when information and connection is a keystroke away. One way we know to give students the skills and experiences they need for their future is through technology.

By creating opportunities for students to use software and hardware to connect and communicate with students around the city, the country, and the world, teachers build foundations for their students. By developing projects for students to creatively and collaboratively solve problems, teachers create pathways to using technology effectively in the classroom. It is through this that great teachers provide the kinds of skills and experiences for their students to succeed. ”

Warren Barkley, CTO

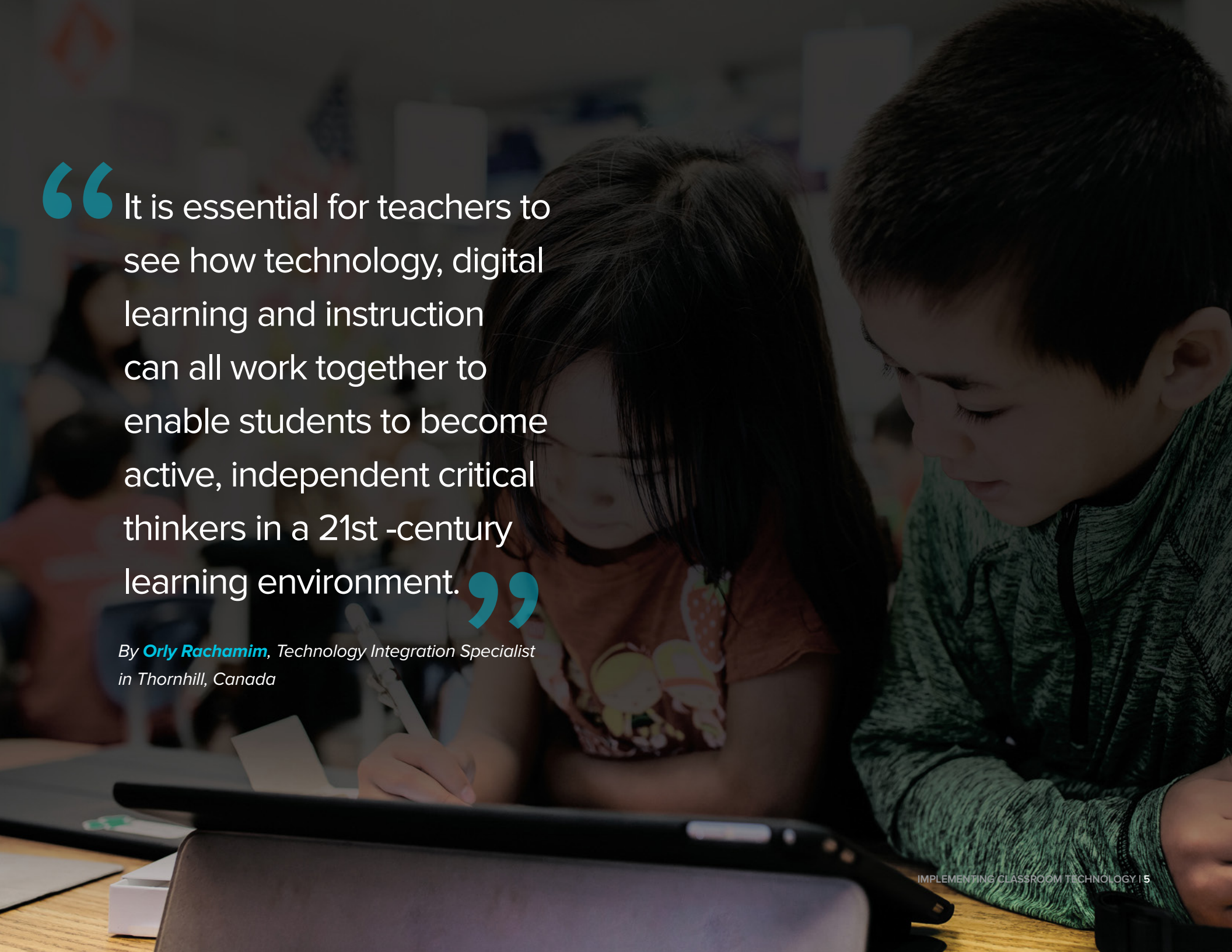


“Our current students are digital natives. They have grown up with tablets and tech of all kinds in their hands. They have had immediate access to information since they were toddlers. We need to instruct them using those same tools, take our learning to them.”

By **Teresa Brown**, Instructional Technology Specialist, San Antonio, Texas

A vibrant college campus scene. In the foreground, a group of five students are sitting on a large, light-colored concrete block. They are all looking down at their smartphones or tablets. Two students are wearing backpacks. In the background, a large, modern building with a glass facade reflects the sky and surrounding greenery. A group of students is walking on a grassy area near the building. The sky is blue with some clouds. The overall atmosphere is bright and active.

02. PREPARING STUDENTS FOR THIS CENTURY

A photograph of two young children, a girl and a boy, sitting at a desk in a classroom. They are both looking down at a tablet computer. The girl is on the left, wearing a brown shirt with a cartoon character, and is holding a stylus. The boy is on the right, wearing a green patterned shirt. The background is slightly blurred, showing other students and classroom posters. The text is overlaid on the left side of the image.

“It is essential for teachers to see how technology, digital learning and instruction can all work together to enable students to become active, independent critical thinkers in a 21st -century learning environment.”

By **Orly Rachamim**, Technology Integration Specialist
in Thornhill, Canada

WAYS TO IGNITE STUDENT LEARNING WITH COLLABORATION

BY MARY LEHMAN

Collaboration allows students to think deeper and more extensively on a question, problem, or a topic. When students have control in their learning, while collaborating with others through experiences, it allows them to express their ideas in a meaningful and creative way.

At the beginning of the year I have the students create their Learner Profile. The profile focuses on how they learn. The students need to think about how they learn best in the type of environment, choice

of demonstrating learning, and how they learn new information. Having students reflect on their learning style enables me to customize their learning to fit their needs. Students then are able to work on a passion project during our Genius Hour. Students create an interest list of questions and ideas that they would like to pursue. Often one of these projects that was conceived by one student, becomes a group project.





Using Project-Based Learning (PBL) in the classroom allows the students to solve a problem through collaboration. Students work together on a project to solve a problem that is important to them. Needless to say, they work together without the risk of failure. Using their passion topics has allowed students to take control of their learning.

A passion of one student was the treatment of elephants. From his passion we were able to reach out to the Elephant Sanctuary in Tennessee. We were able to Skype with the Sanctuary and learn about how they rescue abused elephants. After learning about elephants and the work of the Elephant Sanctuary, the students wanted to donate money. Together they created a craft, game, and prizes to have at our school May Day celebration. The students were able to raise \$400 for the Sanctuary.

Another project created by two students was to learn about Winter the dolphin at Clearwater Aquarium. The girls researched together and decided they wanted to raise money for the aquarium. Together they searched for ideas, spoke with our principal, and created “Yoga for Winter” night at our school. The girls involved others from our class to help with the preparation, Google presentation, and the evening program. They were able to raise \$300 for the Clearwater Aquarium. The aquarium in turn made a video for the girls and answered questions they submitted.

Our class has been involved in several projects throughout the year. We have collaborated with other schools for Mystery Skypes by creating a movie about where we live. We have participated in global activities, such as the Cardboard Challenge, Global

Read Aloud, and the Postcard Exchange. We have also worked on projects for our school by creating public service announcements about the lost and found, recycling in the school, and taking care of our technology equipment. We recently worked on a special project to raise money for a boy in our school with special needs. We were able to raise \$200 for him and his family.

Collaboration is necessary for students to learn. We want to create learners that are able to think deeper, solve real problems, learn how to cooperate, and create meaningful learning experiences.

*About the Author: **Mary Lehman** is a 3rd grade teacher in York, Pennsylvania who has been teaching for 23 years.*

“Starting small and being patient helped me to see places where technology could enhance or deepen student learning. Once I experienced success, I was more willing to try other new things. Technology is the future and as an educator, I want my students to be technologically creative, willing to take risks, and be active users rather than just passive consumers.”

By **Ramona M. Dowling**, 1st grade teacher in Bear, Delaware





03. GETTING STARTED: EDUCATION BEYOND THE FOUR WALLS



“The marriage of best practices of teaching and technology needs to be a community experience. In order for all of this to take shape and succeed, teachers must be proficient in the devices, tools, websites and software that is needed. No, you don’t have to know everything there is to know about it, but you must be open to change, open to learning, research independently via magazines, webinars, conferences, colleagues and observations.

Finally keep in mind that you aren’t alone on this journey. There are experts everywhere you turn. Take your newfound knowledge, combine it with your invaluable experience and you will have a lessons that will keep up with or exceed the current trends in our students’ education.”

Julie Kuzma, Instructional Technology Resource Teacher in Warrenton, Virginia

HOW TO GET STARTED INCORPORATING TECHNOLOGY IN YOUR CLASSROOM

BY TERESA BROWN

Where does one begin? As with all learning, we have to begin with the end in mind. What are the learning objectives and how can using technology enhance and improve that learning?

Start by looking at the learning objectives:

- Is there a better way to dispense information to the students?
- Can they use technology to discover learning, to get feedback and then strengthen their learning?
- Can they collaborate and teach each other?
- Are there different ways for students to show their understanding and to work at their own pace?
- Would having a global audience up the stakes?
- Could the students use problem-based circumstances to create their own learning and solutions?



The use of apps and software programs allow students to show and/or build their understanding through the creation of images, songs, games, coding, movies, websites, and more. Students can visit with experts and other classrooms from across the world through video-conferencing.

Electronic simulations allow students to perform experiments at lower cost and without the need for pricey equipment. Students learning can be personalized to fit their strengths and interests. From the primary grades where students might start their technology journeys by recording themselves reading to track fluency or screen-casting their understanding of how to solve an addition problem to secondary students who are writing code and developing solutions to problems that impact us all, technology can be a powerful educational tool.

As educators we need to prepare our students for the complex, highly technological world they will work in. Along with the curricular objectives in every grade level, there are technological skills that our students will also need to be successful. We shortchange our students if we don't educate the entire student. For all of these reasons, the implementation of education technology is no longer optional, it should be part of every student's experience.



*About the Author: **Teresa Brown** is an Instructional Technology Specialist at North East Independent School District in San Antonio, Texas.*

“ I am often asked, what led to our successful implementation of technology and I believe there are several factors.

1ST

First and foremost, I believe training is imperative.

You cannot just provide technology without showing teachers and students how it can be used. This training also needs to be done by educators who understand the curriculum.

2ND

Secondly, I would say that administration support is key. If principals and school leaders acknowledge the power of these technology products it will go a long way in the classroom.

3RD

Thirdly, identify and reward school technology champions. If you have one teacher on staff that is able to unleash the power of technology in the classroom, it will quickly spread to other staff members and students will benefit greatly.

4TH

Lastly, never forget the purpose of why the technology is being implemented, which is to help students learn. If used appropriately, technology can have a profound impact in educating our children.”

By **Joey Savoy**, Math & Science
District Coordinator in Miramichi,
New Brunswick

SUCCESSFUL INTERACTIVE TECHNOLOGY INTEGRATION, THE **SAMR** WAY

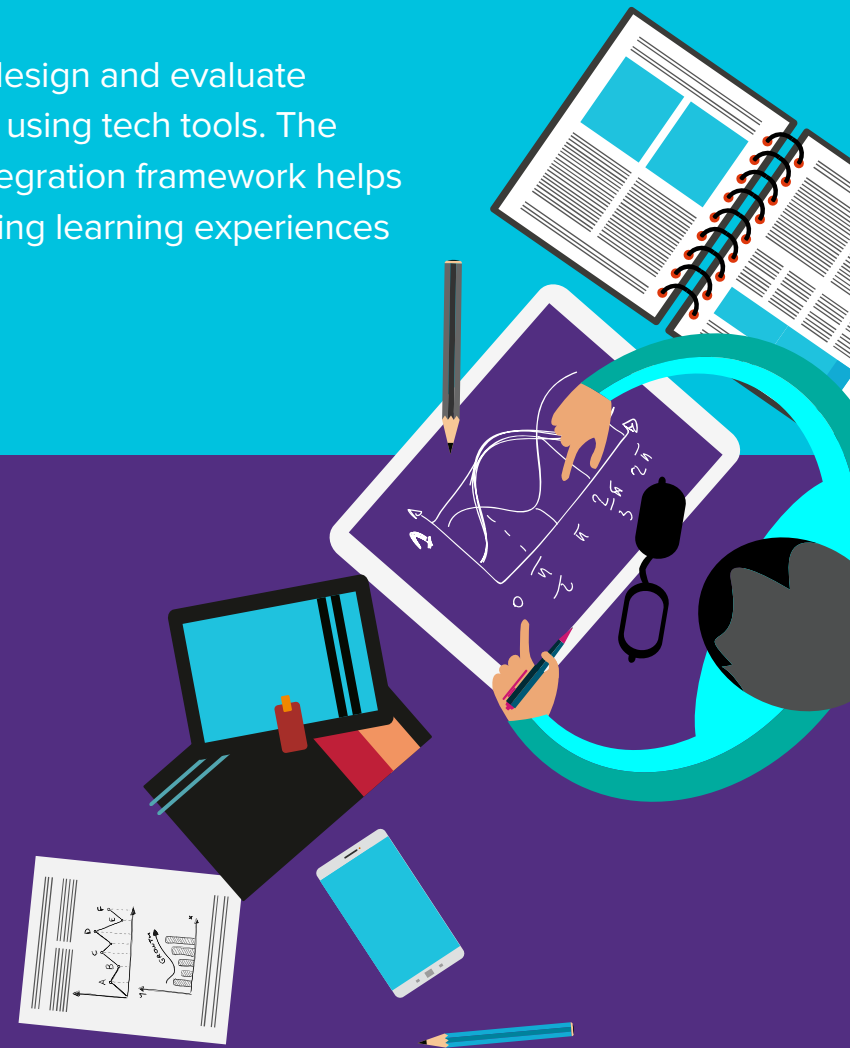
BY CATHY GROCHOWSKI

SAMR is a useful framework you can reflect upon when you want to design and evaluate tasks that target higher order thinking skills and student engagement using tech tools. The SAMR concept was developed by Dr. Ruben Puentedura. His tech integration framework helps thousands of savvy teachers to envision, develop and design motivating learning experiences so students can attain higher levels of achievement.

S Stands for **S**ubstitution

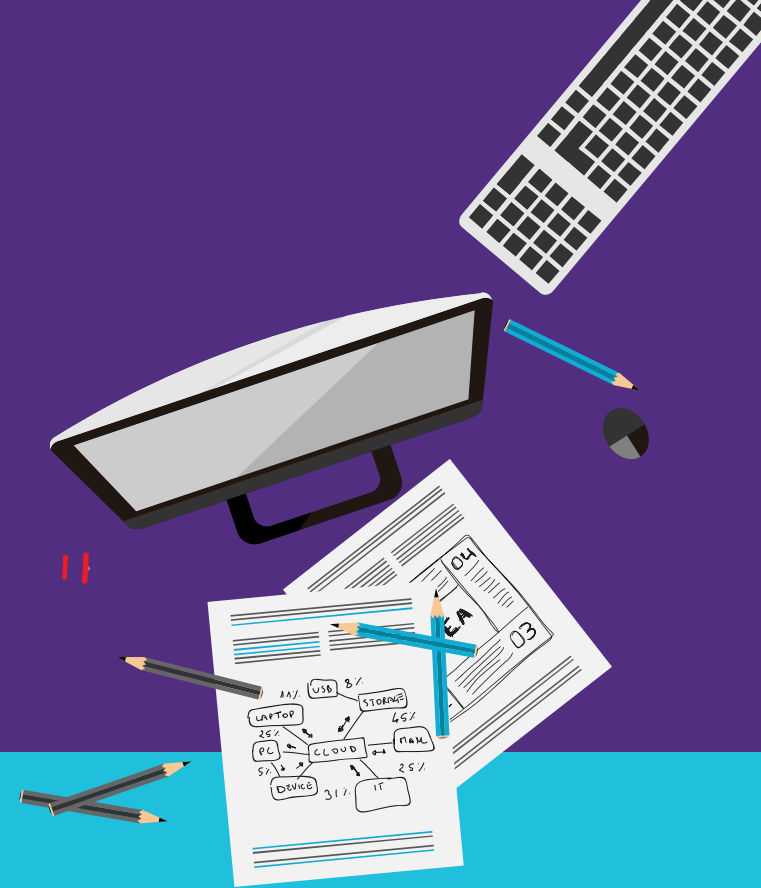
With substitution, your technology tools act only as a direct tool substitute in your lesson. There's no real functional change in the lesson. For example, when you first get an interactive whiteboard or interactive flat panel, your initial goal will be to take existing content lessons and convert them into an electronic format for use on your interactive product. That usually means you'll scan classroom and homework documents, and import a few content-related photos. At first this process may seem a little overwhelming (after all, teachers have hundreds of lessons to scan/upload!), but you'll become a pro at the S stage of the SAMR model right away.

Don't get too comfortable here or else your students will lose out on a whole lot of more-engaged learning!



A Stands for Augmentation

After you've transferred some of your traditional lesson content, it's time to augment your materials and resources. Using SMART's interactive technology, you can quickly start to incorporate interactive multimedia including video, audio, hyperlinks to websites, and more. These extras will enliven your original lessons! For fun you'll add activities to reinforce understanding by using some of the latest tools in SMART Notebook (check out SMART lab activities including Super Sort, Rank Order, Flip Out, Label Reveal and others). My absolute favorite SMART lab activity is Shout It Out! It's a wonderful go-to tool for brainstorming, reviewing content, generating ideas, and improving participation and collaboration using any device.



M Stands for Modification

Now it's time to place students in the driver's seat. Working together, students might share in the creation of a blog, give feedback on group or individual writing pieces. The ideas are endless. Students could share the SMART amp workspace to collaborate on research and writing for a science or history project. SMART amp improves project-based and student-led learning using a multitude of devices and apps. All students can contribute and collaborate from anywhere at any time. It's easy to move back and forth from whole-class, small-group and individual instruction within the SMART amp learning space. This is a truly modified approach to engaged learning!

R Stands for Redefinition

In forward-thinking lesson design, we should all aspire toward R. Redefined learning enables students to collaborate, demonstrate critical thinking skills, create messaging that's reflective of their learning and show evidence for evaluative thinking. Doesn't this sound like the 4 C's concept? With the proper use of tech tools, students can work together to create content. They might create assessments for their peers (using SMART response 2 or Kahoot), or use EdPuzzle to add questions to a video they shot with a tablet. Teams of students working together can take on any topic, and fabulous learning can occur.



Closing thought

Ask yourself when creating new lessons: What's the worst that can happen with this idea? Don't be afraid of failing in your lesson design. The kids will understand and be thrilled with the new, more relevant style of learning. **Just do it!**

*About the Author: **Cathy Grochowski** is a Digital Literacy teacher at Westfield Community School in Algonquin, Illinois.*



The learner is at the core because it is all about universal access for every single student. Notice it is the learner that comes first even before the technology is in their hands. The learner needs a support structure that is appropriate to their level, and be taught lessons designed for their growth and their achievement.


By **Ronald Fisher**, 3rd grade teacher in Brigham City, Utah

It would be difficult to customize learning for students and encourage collaboration without the necessary tools they need. Google Drive and SMART tools have allowed students to work together inside and outside the classroom. The students collaborate together on projects by sharing their work in Google Drive. SMART amp has allowed students to brainstorm about their projects or their presentations. Sometimes they use SMART amp as a presentation tool. We are fortunate to have SMART Notebook on the school computers. Students create interactive presentations for the class to involve them in their presentations, and check for understanding.

By **Mary Lehman**, 3rd grade teacher in York, Pennsylvania

One thing I have heard over and over when working with teachers is, “Do I have to change what I am doing now that I have technology?” The simple answer simply no. Integrating classroom technology should not be something separate that you are doing in the classroom. Technology should be a vehicle to help achieve an existing goal. It doesn’t replace the teacher. Instead, it should be used to further instruction, differentiate, and remediate.

By **Jennifer Thornsberry**, Technology Integration Specialist in Columbia, South Carolina

A photograph of a classroom scene. A female teacher with glasses and a pink shirt is leaning over a group of students. They are gathered around a table, looking at a tablet computer. The students are diverse in age and ethnicity. In the background, there are shelves with various classroom supplies like markers and scissors. The overall atmosphere is collaborative and focused on learning.

04. WHAT THE FUTURE BRINGS: BOOSTING STUDENT SUCCESS

THE CLASSROOM OF THE FUTURE

BY NESS LOU



“Difficult to see. Always in motion is the future.” – Yoda

The future for learners looks bright and promising. More varied opportunities than ever before exist and the concept of the traditional classroom is waning and new, thoughtful and considered adaptations are emerging for both face to face, online and blended domains. Opportunities within formal education should take into account the real world situation the learners experience from access to technology to the critical thinking skills required to survive and thrive in an evolving world. However, the evolving technologies available right now can support the diverse requirements of our learners.

Collaboration is a key skill required for almost every human endeavor and almost certainly by employers. Tools like SMART amp offer a platform where by learners can collaborate over shared learning whilst learning key elements necessary to be successful; teamwork, respect, digital citizenship, valuing the input of others and much more.

These tools offer major steps forward in making a variety of learning scenarios accessible to many students. The rapid pace of technological development offers huge potential to widen the learning opportunities for current and future learners in a classroom which may have similar features to a traditional room, but may well be much more open and virtual, either partially or in entirety.

We can't predict the future but we can help to shape it and make it a place we want to be; evolving technology supports us to achieve this.

*About the Author: **Ness Lou** is an ICT director at North London Collegiate School in Jeju, South Korea.*

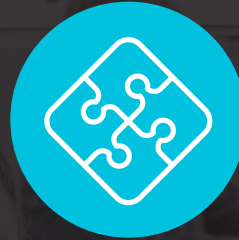
“Some key points in the future classroom should be:



Learning by creating: the learners are actively involved in producing and creating their own content. This allows learners to exercise their imaginations, and to innovate.



Using engaging technology: ICT provides a number of ways to design, create and disseminate learner-generated content.



Developing learners' soft skills: the students develop their soft skills through project-based work, including presentation, planning, and teamwork.



Giving students independence and ownership over their learning: enhancing students' engagement with the task, and helping to foster their sense of personal responsibility.”

By **Gert Lemmens**, middle school teacher in Bree, Belgium

A LOOK AT WHAT'S AHEAD

BY WARREN BARKLEY, CTO

We developed our education software as a platform that allows teachers to imagine on top of it. To shape learning the way they want. SMART Learning Suite lets teachers look at the learning and the outcome, like $2+2=4$. And it also gives teachers the chance to go back and see that Johnny participates more than Amir, and Sally participates more than Lisa. Teachers can look at the order of the learning – at who is mastering assignments, concepts, and projects – at

the micro-assessments that happen throughout the process of learning.

This is where teachers become a learning or instructional coach. The best teachers see themselves as that. And part of being a learning coach is to watch how their students learn. It gives teachers the opportunity to go back to the learning because they have a digital artifact of the order of learning and how it builds on itself.

The most important element in every classroom has never changed and it never will – it's the teacher. The real magic in a classroom lies with them. Every day they are igniting and inspiring a passion for knowledge. Technology has a place in the classroom. But it's simply a means to a greater end. It's a tool that enables and supports learning and the learners.



A FINAL THOUGHT

“My advice... don't let technology in the classroom intimidate you. Honestly, it will make your life easier.”

By *Jennifer Thornsberry*, Technology Integration Specialist in Columbia, South Carolina



05. ABOUT SMART



SMART Technologies Inc. is a world leader in simple and intuitive solutions that enable more natural collaboration. We are an innovator in interactive touch technologies and software that inspire collaboration around the globe.

Over 2.8 million K-12 classrooms in 175 countries around the world use SMART solutions for education to make learning more interactive, engaging, effective and fun.

To learn more, visit smarttech.com.

If you found this information useful,
pass it on to your superintendent or
other educators who might, too.

Share this ebook

