INTRODUCTION

"I'll Never Go Back"

For years, a high school humanities teacher named Adam Kinory thought he was doing a fine job of incorporating technology into his classroom. As computers became more widely available to his students, he made subtle shifts in assignments and expectations to take advantage of new tools. Word processing enabled students to revise their writing without the tedium of repeat typing. The Internet opened new research opportunities. Graphics software made for more compelling presentations. A class website helped Kinory communicate about deadlines.

But looking back on his first decade in the classroom, he can see that those shifts did not make for a fundamental change in teaching or learning. He was merely layering technology onto the teaching methods he had learned a decade earlier. "None of that was a leap," he admits. "I didn't really change what I was doing in the classroom."

The "big leap" happened soon after Kinory gained some hands-on experience using digital media, including video cameras and editing software. That experience, which came about through his participation in the Digital Edge Learning Interchange, got him thinking about the role of multimedia in his classroom. Too often, he had watched his students turn off their critical faculties whenever he showed a movie. In particular, he wanted to better engage all students in his special education inclusion class, especially those who are strong visual or auditory learners.

Now, he began to consider a more active use of film – where students would behave more as directors and critics instead of as passive viewers. After all, many of today's students are already savvy about making their own short films. Some upload their productions to sites like YouTube, or use their mobile phones to create videos. Kinory's typical student has a blog and belongs to several social networks. Why not build on this digital fluency to reinvent a project for the high school classroom?

Instead of asking students to write traditional thematic essays about the Scopes Monkey Trial in the USA, Kinory had them analyse a selection of film clips from *Inherit the Wind* that bring this era and ideas to life. He showed students how to embed digitised film clips directly into their documents, linking visual imagery with their written analysis. The assign-

ment not only deepened their understanding of literary themes, but also helped students to think more critically about media as they learned to analyse elements like lighting and blocking. When he asked students to reflect about the project, Kinory could hear them making stronger connections between what they were learning and their own world (Kinory, 2003).

Both teacher and students had to navigate new ways of working together as the project unfolded, but it didn't hurt that students saw their teacher trying new approaches and taking risks as a learner. At the end of that first reinvented unit, Kinory received a career first: a letter of thanks from his students. If he needed more convincing that he was on the right track, that did it.

The transformation in Kinory's teaching style has been profound – and permanent. "It's natural now for me to integrate technology. A few years ago, my students were surprised but reacted positively when I started using digital tools. Today, my students would react negatively if I didn't teach this way. I'll never go back," he insists, "to the way I used to teach."

Not every successful project ends with a thank-you note. Nonetheless, there are themes in Kinory's story that echo in classrooms around the world. From America to Australia, from Singapore to Spain, more and more educators are making similar shifts. They recognise that digital tools are essential features of the environments in which today's students are living and learning. What's more, these educators see how technology opens opportunities to reinvent projects so that they become more authentically connected to students' lives. When they succeed in designing an effective project, teachers are wise enough to recognise that they are also changed by their students' success.

Kinory has continued to introduce new instructional strategies that meet learners squarely in their world, where he sees technology as "a fundamental building block of their experience". When he teaches about point of view in the short story, for instance, he routinely streams audio clips from U.S. National Public Radio shows, such as "This American Life", to illustrate key ideas. Some students are motivated to produce their own podcasts. Three were recently selected as winners in an essay contest sponsored by the NPR show "Selected Shorts". Classmates and even other teachers "are starting to see these students in a new and more positive light", Kinory says (2007).

This book is about the journey that unfolds when teachers decide to move away from traditional teaching and toward this new vision of instructional design. It's a learning journey – for teacher and student alike. For instance, you may decide to take advantage of digital tools for inquiry, collaboration and communication to connect learners to one another or even to the world beyond the classroom. This endeavour requires learning about new and emerging technologies. You decide to give up the traditional teacher's role of being the content expert, and that means learning new ways to engage with your stu-

dents. As a high school teacher named Brandy Avant admitted, "Letting go of the silence was the hardest thing, but I realised we have to let students work together and help each other. Now, I get uncomfortable if my class gets too quiet." She's another who has vowed to "never go back" to her old style of instruction.

This is a journey that involves calculated risks. Many of the teachers you will meet in the chapters to come are like Adam Kinory – willing to try new strategies to meet instructional goals and reflective about wanting to improve their own practice so that all learners will succeed. Like him, many also turn to their colleagues as a "sounding board" for new ideas. He regularly brainstorms with a colleague he has come to trust for "helping me formulate critical questions to think about what I'm doing".

Long before we began writing this book, each of us embarked on our own learning journeys that opened our eyes to new possibilities for digital-age instruction. Jane Krauss has seen her approach to teaching evolve during her 20 years in education. She has been a special and general education teacher, supervisor of preservice educators, curriculum writer, presenter, trainer and director of professional development. In the primary classroom, she was an early adopter of project-based learning and experienced the shift in what was possible when technologies became available to make projects more authentic, meaningful and rigorous. Jane continues to work with educators around the world to explore the potential and promise of education technology. Suzie Boss, a journalist specialising in education, has spent much of the past decade observing effective teachers and learning from them about best practices. She has seen how innovative approaches to instruction can combine with new tools to engage learners and transform communities.

Specifically for this book, we have interviewed and observed dozens of teachers who have found success by reinventing the project approach to better meet the needs of digital-age learners. These educators work in all kinds of environments – some of which are more welcoming than others to new ideas for instruction. The educators come from all around the world, and their examples demonstrate how real-world projects can help diverse learners meet instructional goals in wildly different contexts.

Many of these educators feel like pioneers in reinventing project-based learning to take advantage of the opportunities that digital tools afford. Fortunately, they are also willing to share their insights and discoveries. In fact, many of those we highlight are active bloggers who make a point of sharing their learning journeys online so that others can join the conversation. The growing edublogger community provides teachers with increased opportunities to come together to offer improvements, share strategies and enhancements, and work more collaboratively to develop improved versions of promising projects.

GET YOUR FEET WET

Before you launch an extended learning project that you design, you might want to start with a project that lets you practise collaboration with colleagues. You can jump-start the process by joining a well-designed project that is already underway. This reduces your investment in planning time and connects you with a community of educators who share your learning goals. You can exchange ideas with others and practise giving and receiving critical feedback. This built-in support will scaffold your learning before you build your own project plan from the ground up. Following are some examples of project sources from around the world. Many projects include opportunities for online collaboration, along with supporting materials for teachers.

- Center for Innovation in Engineering and Science Education (CIESE, www.k12science.org) – CIESE hosts projects in which students around the world contribute local data and analyse amassed world data with other student researchers around the globe. A few project titles include The International Boiling Point Project, The Square of Life, The Human Genetics Project and The Noonday Project.

- Flat Stanley (www.flatstanley.com) – This global literacy project connects students and schools in dozens of countries on several continents. The Flat Stanley website includes a forum for exchanging project ideas with colleagues worldwide, and the site is available in English and French. Search the tag "flatstanley" on the Flickr photo sharing site (www.flickr.com) and explore the worldwide adventures of hundreds of travelling Stanleys.

- Global Learning and Observations to Benefit the Environment (GLOBE, www.globe.gov) – This organisation promotes hands-on science education worldwide. Primary and secondary students engage in projects that involve taking scientifically valid measurements in fields such as atmosphere, hydrology, soils and land cover. Students report their data online and collaborate with scientists and other GLOBE students around the world. Resources for teachers include videos and other professional development, along with support from working scientists and mentor teachers. The resources are available in six languages.

- Global SchoolNet (www.globalschoolnet.org/gsh/pr/) – The Internet Project Registry at Global SchoolNet is a clearinghouse for collaborative projects from around the globe. Teachers who want to collaborate online can join an existing project, take a look at upcoming projects or review more than 2000 archives of completed projects. New project management tools will be introduced soon, with funding

to ask students to think about how they might change their choice of teammates in the future. Encourage self-assessment by asking students to describe the skills they have to offer a team.

When projects connect students from different cultures, you may need to pay close attention to how students interact. "Before you start, be sure students understand something about each other's cultures," advises Vicki Davis, whose American high school students have collaborated online with Muslim teens in Bangladesh. "Harmless joking by a teenage boy from the USA could be misconstrued by a young Muslim female. You have to emphasise, from the beginning, what it means to be professional."

Your Turn

Analyse Your Classroom Conversations

Teachers are often surprised by the statistics about average wait time or the preponderance of yes-or-no questions asked in most classrooms. One strategy for learning more about your own classroom behaviour is to capture it on video and then analyse the evidence.

Ask your technology colleague, a parent volunteer or a willing colleague to help you make a video recording of a class or a learning activity you want to analyse. This record offers a golden opportunity for collaboration and analysis. Invite your fellow teachers to help you analyse your questioning style, student conversations, or whatever else you are focusing on improving. Then return the favour by helping them analyse their own videos. You might want to look for different kinds of conversations (between teacher and students, or students and students). Think about how you could have taken discussion deeper by waiting longer for responses, asking more probing follow-up questions, or giving students more time to pursue their own conversations with peers.

If you want to take your video a step further, consider making it available for other teachers to use in professional development by turning it into a podcast. Add some introductory commentary to explain your purpose, and upload your podcast to a site such as YouTube.