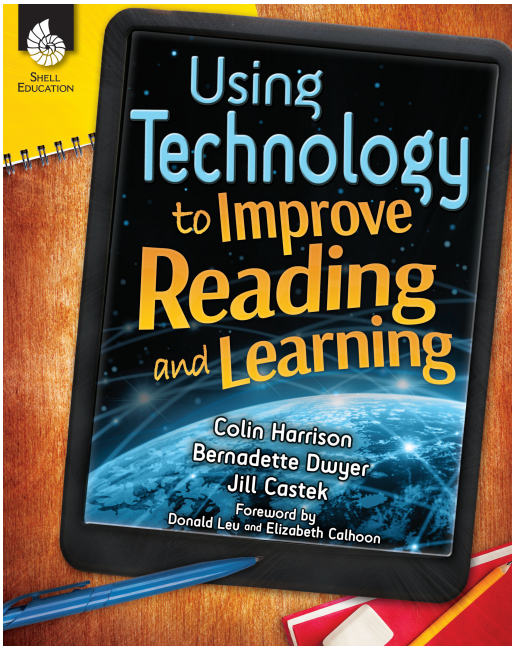
SHELL EDUCATION

Sample Pages from

Using Technology to Improve Reading and Learning



The following sample pages are included in this download:

- Table of Contents
- Introduction excerpt
- Sample chapter selection

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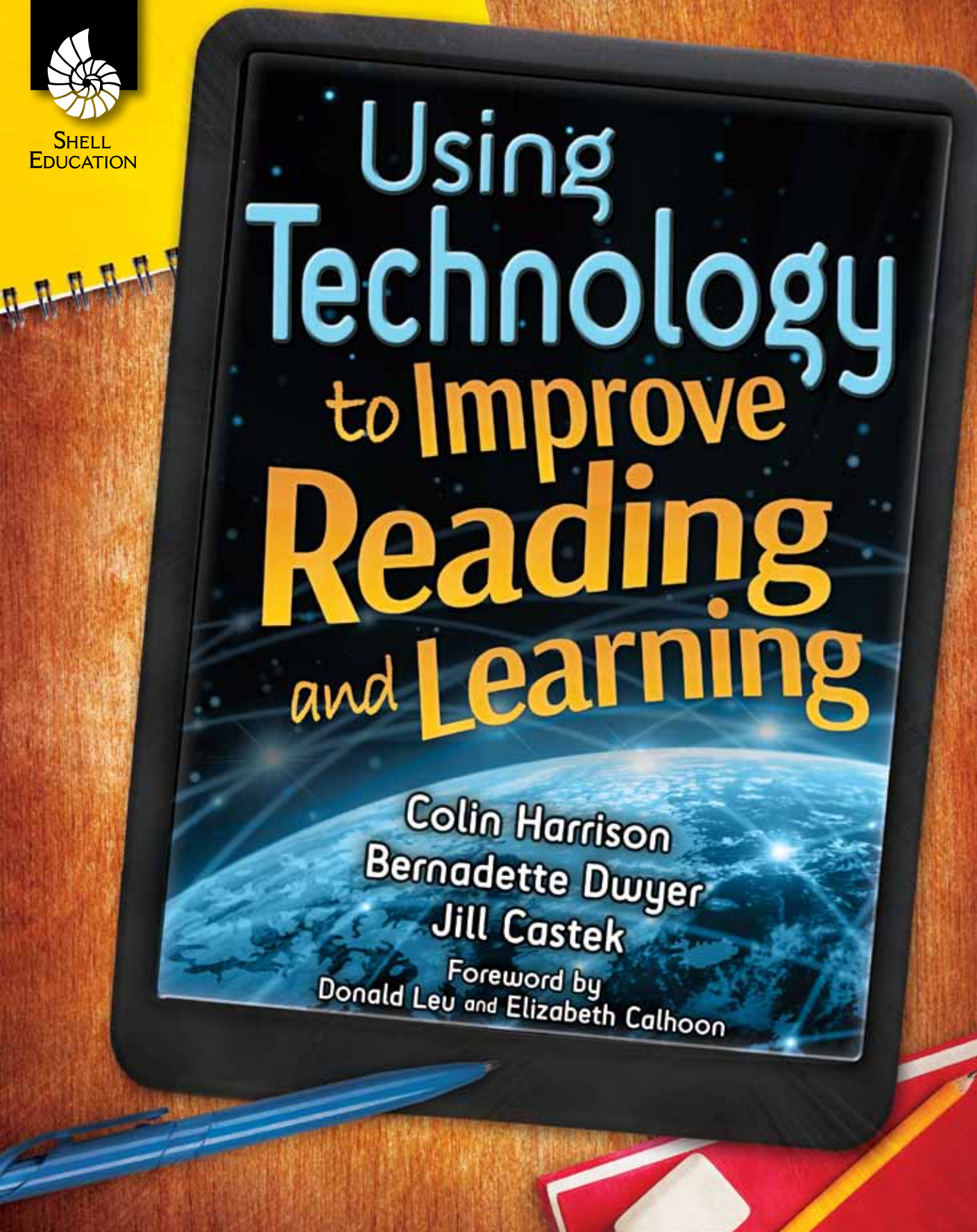
Shell Education
Using Technology to Improve Reading and Learning
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Table of Contents

CHAPTER 1

Using Technology to Make the Teaching of Literacy More Exciting

In this chapter, you will learn:

- how this book can help you become a more confident and a more effective teacher;
- why the authors are confident that this book will be helpful for you; and
- three ways in which you might use this book.

After reading this chapter, you will understand:

- that the authors of this book do not believe technology will solve every problem; and
- that developing students' critical Internet literacy is one of a teacher's most important jobs.

Why You Need This Book

The aim of this book is to help teachers improve their students' reading, writing, and communication skills, and particularly to help teachers become more confident in using technology to make the teaching of literacy more exciting, more engaging, and more effective.

Do you want to develop the following in your students?

- literacy
- vocabulary
- comprehension
- fluency
- critical thinking
- skills in synthesizing
- creativity
- engagement
- autonomy
- planning skills
- teamwork skills
- Internet criticality
- collaborative learning

Do you feel you need to know more about how technology can help you to achieve these goals? If the answers to both these questions are "yes," then this book is for you.

Computers have been in classrooms since the 1980s, but in many schools, the usage of technology to enhance learning and empower learners has hardly changed since those early days. Yet in other schools—in economically disadvantaged districts as well as rich districts—teachers and students are using computers and other devices in every lesson, and students' learning and their achievement have been transformed. How can it be that while there is broad agreement about how to teach reading, there are massive differences between how teachers in different schools use technology? National and state policies drive the reading curriculum, and therefore the teaching of literacy is delivered using materials and approaches that are broadly similar. This, however, does not apply to teachers' use of technology.

We know from research that different teachers have completely different professional experiences when it comes to professional development and support in using new technologies. We also know from research, from over 30 years ago, that it's no good to simply present teachers with computers, tablets, electronic whiteboards, or video cameras. If teachers are not given support and professional development, they will not use them.

The picture is changing rapidly and in two very significant ways. First, many teachers who say "I'm not really a technology person" are in fact increasingly competent with technology: they own and use a computer every day, they use other devices such as a phone and digital camera, and they already use

technology in their teaching, at least some of the time. Second, teachers' access to support has changed radically. Research into teachers' use of computers in the 1990s showed that those who had access to informal networks of support (for example, a close colleague who could show them what to do, or a teaching partner or neighbor who was knowledgeable) learned more and became more confident than those who only received professional development from experts in a more formal school setting (Harrison et al. 1998). However, teachers today have access to many more sources of ideas, guidance, and informal learning. To begin with, their students—collectively, at least—often know more than their teachers about how to use the Internet, how to share files, and how to make and edit multimedia. The other key resource for informal and just-in-time learning is the Internet itself. The 25 billion pages of the Internet contain tens of thousands of lesson ideas and thousands of videos for teachers. At the time of this writing, a Google™ search for the verbatim phrase *videos for teachers* offered nearly a million links, some of which were to sites that offered over 3,000 videos.

This book will help you learn more about what resources are available out there to support your teaching. However, resources alone are not enough. Teaching is a social as well as a cognitive activity, and, as a teacher, you need to know how to organize your students and their learning in order to make the best use of technology. Every teaching idea in this book has been used, and used successfully, in day-to-day school contexts and mostly in schools in economically challenged areas. The authors are classroom teachers who became college professors, but each of them has continued to spend part of their year in classrooms, teaching and evaluating new software and hardware, and road-testing new ideas. They know how to engage those students who are the most challenging to teach: the weaker readers, those who lack the confidence or social skills to work collaboratively, those whose language skills are only emerging, and those whose learning needs a good deal of scaffolding.

Nearly every teacher these days can use PowerPoint® in his or her instruction, and that's a good thing. A digital presentation requires planning, organization, and the ability to connect hardware and software to a data projector. A good presentation can hold the attention of a class (at least for a while!) and may be the focus for a brilliant expository lesson. But some teachers have used the phrase *Death by PowerPoint* to describe lessons in which the slide show presentation is used in no more creative a manner than a chalkboard was a hundred years ago—to present a sequence of textbook pages for copying as

much in common with national curriculum goals in other English-speaking nations, most of which have adopted a similar approach and have tried to bring rigor and coherence to the curriculum while at the same time ensuring that there is an emphasis on higher-order thinking and the new skills needed in our developing societies.

The U.S. standards have been developed following an international benchmarking exercise, and our hope, therefore, is that by offering points of correlation to Common Core Standards, we shall be assisting not only U.S. teachers but also those from other countries to link their teaching to these important goals.

How to Use This Book

The chapters in this book form a logical sequence, but each is freestanding and may be used on its own as a support for your personal learning or for group professional development. We want to encourage you to try out many of the strategies that we propose, but where should you begin?

We suggest three possible starting points:

- **Starting point one is Chapter 2.** Perhaps the easiest place to begin is by finding out what your students already know. The Classroom Connection in Chapter 2 addresses the question *How can you make the best use of technology that your students possess, and the skills they have in using it?* Collecting this information could be an invaluable starting point for your students to begin sharing expertise with one another, but they will also be sharing it with you!
- **Starting point two would be for you to choose a chapter title that you feel resonates with some knowledge or a particular interest that you already have.** If you are already confident in developing comprehension, for example, you could begin with Chapter 6, *Strategies For Teaching the Information-Seeking Cycle: The Process of Searching for Information on the Internet.* If you already enjoy setting up peer collaboration and cooperative learning, you could begin with Chapter 7, *Strategies for Encouraging Peer Collaboration and Cooperative Learning.* Whichever chapter you choose, we are confident that the lesson ideas in these chapters are approachable, but that they will also take you into new areas of professional expertise.

- **Starting point three would be to begin with Chapter 9,** *Strategies for Building Teachers' Capacity to Make the Most of New Technologies.* One reason for doing this would be that the chapter offers advice on how to set up networks and new online professional communities. The chapter contains many examples of how to establish and sustain such communities. If you began here, you would be planning on sharing plans, ideas, and resources with other colleagues from the outset. If you follow the plans, you will be on your way to success.

As authors who are themselves continually seeking to expand our knowledge of how to make the best use of new technologies, we know that there will be unanticipated changes in hardware and software during the coming years. But the ideas that we share in this book will not rapidly go out of date. The new skills that your students need to develop and hone are not ones that will change, even if educational policy changes. The skills needed to develop reading and literacy will not change; the skills needed to be able to navigate, critique, and transform the billions of pages of information available through the Internet will not change; the need to develop literacy skills for life in the world after school will not change.

Our responsibilities as teachers are daunting. Some politicians may believe that the responsibilities of a teacher are to develop literacy and instill knowledge. How little such people understand about the real reasons why teachers work night and day. Teachers work ceaselessly because they are engaged in the most important "manufacturing job" of all—making knowledgeable people. As teachers work with parents on that daunting task, they know with certainty that literacy and knowledge alone are not enough and that five hours a day are not enough. Our students, the citizens and parents of tomorrow, will learn as much from the Internet as from their teachers; they will be creators of knowledge as well as consumers of knowledge, and their ability to use technology not only to communicate but to set up collaborative and equitable networks will be an essential life skill. As teachers we need to do all we can to help students develop the skills of literacy, understanding, criticality, and social responsibility that will enable them to use technology not simply to make their lives more interesting but also to make the world a better place. As authors who are also teachers, we sincerely hope that this book will make a contribution to supporting your professional development as you take on this vital work.

CHAPTER 3

Strategies for Using Digital Tools to Support Literacy Development

In this chapter, you will learn:

- how the principles underpinning the Universal Design for Learning (UDL) framework support the diverse needs of students in your classroom; and
- how digital tools can support literacy development for your students.

After reading this chapter, you will:

- know strategies to develop reading vocabulary using digital tools for literacy;
- understand strategies to develop reading fluency using digital tools for literacy;
- know strategies to promote wide reading using digitized texts; and
- be able to differentiate instruction using digital tools for diverse populations in the classroom.

As educators, we are rightly concerned that issues of equity, social justice, and equality of opportunity permeate all that we do in schools to support the diverse cultural, linguistic, and learning needs of our students in order to help them achieve their potential and participate fully in society within a global

community. We know, for example, that the number of struggling readers in our classrooms is growing and that the number of students for whom the home language is not the language of instruction in school is increasing (Biancarosa and Snow 2006; Crawford 2004). Our school curricula have tended toward supporting the mythical "average" student in the classroom in a one-size-fits-all approach, and we have then, with varying degrees of success, "fixed" the curriculum to support the needs of struggling readers, English Language Learners (ELL), and students who are academically gifted. The Universal Design for Learning (UDL) (Rose and Meyer 2002) framework is based on the principle that the design of curriculum should anticipate the needs of all learners from the outset rather than be "fixed" later for students with diverse learning needs. The framework was inspired by the "universal design for all" concept in architecture where buildings are designed from the outset to accommodate the needs of diverse populations. Similarly, a UDL curriculum minimizes barriers to learning and maximizes support for students so that the ensuing curriculum is flexible, supportive, and responsive to the learning needs of all students (Hall, Strangman, and Meyer 2003).

The principles underpinning UDL are helpful to us as we consider, in this chapter, the possibilities that technology affords us to support all of our students on the journey to becoming better readers, writers, communicators, collaborators, thinkers, and, ultimately, lifelong learners. These principles are presented in the sections that follow.

Principle 1: To support students' recognition networks and provide multiple examples and means of representation.

- Assess prior student knowledge and scaffold student learning.
- Customize the display of information by presenting it in different modalities (e.g., text size, font, color, video, audio) to reduce barriers to learning.

Principle 2: To support students' strategic networks and provide multiple means of action and expression.

- Provide multiple means of expression, communication, and fluency development within a cognitive apprenticeship framework.
- Provide guided, ongoing, and flexible support.

Principle 3: To support students' affective networks provide multiple means of engagement.

- Offer options to develop and sustain interest and optimize choice.
- Provide authentic learning opportunities and adjustable levels of challenge.

Pause for Thought

Integrating Technology, Content, and Pedagogy

Borrowing from Ito and her colleagues' great title *Hanging Out, Messing Around and Geeking Out: Kids Living and Learning With New Media* (2010), we would urge you to take time to *hang out* and play with the range of digital tools described in this chapter on a Saturday afternoon or other free time. Showcase your learning at an Internet party! Make time to *mess around* with technology by teaching colleagues to consider the possibilities these digital tools have for enhancing literacy in your classroom. Then, *geek out* with your colleagues to discuss how you could repurpose these digital tools in appropriate and creative ways to design a literacy curriculum to integrate technology, content, and pedagogical knowledge (Mishra and Koehler 2006).

Digital tools offer the potential to promote motivation and engagement and to support the diverse needs of all of our students by creating "scaffolded learning environments where supports can be adjusted in relation to students' needs and preferences" (Dalton 2008, 155). For example, digital tools can provide:

- multiple media formats, such as video, audio, and image supports;
- opportunities to practice skills and strategies with assistance;
- possibilities for highlighting critical features of texts;

- support for receptive processes through, for example, text-to-speech (TTS) functionality;
- opportunities to demonstrate new knowledge and learning through multiple modes of presentation;
- adjustable levels of challenge;
- choice of content and tools; and
- ongoing assessment opportunities.

In this chapter, we consider the ways in which digital tools can be harnessed to build literacy in the curriculum in the areas of *developing reading vocabulary*, *promoting reading fluency*, and engaging our students in *digitized reading environments*.

Common Core to the Fore

Helping Students Become College and Career Ready

The CCSS focus on skills such as problem solving, collaboration, and fluency with technology. These standards call attention to the skills requisite for any nation's workforce that strives to be competitive in the 21st century. Guiding students to acquire these competencies can no longer be an ancillary aim—it is an economic and social imperative that is central to civic participation. However, teaching them is not only difficult, but it also represents a significant shift for most classroom teachers. Most of us are tentative about ways to use technology to support and extend learning, but taking small steps in doing so offers big rewards in terms of students' engagement and investment in learning. Creating an environment that ensures that students are prepared to strategically use a variety of technologies is central to the aims of the CCSS and is an important target for schools.

Vocabulary knowledge is important for success in reading, writing, and ultimately learning in school. Research suggests that children from high-poverty school districts enter school with vocabularies that are smaller than their more affluent peers (Graves 2006). The section that follows considers what we know about effective vocabulary instruction. Following this, we consider how digital tools can be utilized to advance both receptive and generative processes in vocabulary development.

What Do We Know about Effective Vocabulary Instruction?

Effective vocabulary instruction:

- teaches important words and word learning strategies (Graves 2006).
- promotes wide reading and incidental learning opportunities and involves lots of rich discussion and talk about text and experiences (Anderson and Nagy 1992).
- recognizes that word learning is incremental—word knowledge builds over time through rich, repeated, and varied exposure and use in authentic contexts (Beck, McKeown, and Kucan 2002).
- helps students to become independent word learners (Blachowicz and Fisher 2004).
- fosters word consciousness and word play (Scott and Nagy 2004).
- views words as networks of concepts and teaches conceptually related words in meaningful contexts (Nagy and Scott 2000).

Digital tools can support both receptive and generative processes to enhance vocabulary development (Castek, Dalton, and Grisham 2012). In the sections that follow, we consider a range of digital tools to support word learning and vocabulary development in the following areas:

- Using word cloud generators such as Wordle™, Tagxedo, and WordSift for graphical representations of text
- Generating vocabulary videos to promote social learning and foster word consciousness

- Creating tutorials using, for example, Show Me, to promote word-learning strategies
- Utilizing collaborative learning tools, such as VoiceThread and Thinglink

Graphical Representations of Text

Word Clouds

Word clouds are graphical representations of inputted text and can be created in Wordle™ (http://www.wordle.net/) or Tagxedo (http://www.tagxedo.com/). The frequency of words in a particular text is reflected in the size of the words in the word cloud. Simply copy and paste an Internet URL or the text from a word processing document into the *Create* section on either Wordle™ or Tagxedo. Word clouds can be presented in different layouts, fonts, colors, and organization. Save the word cloud as an image, and you can display it on your interactive whiteboard, embed it on a class wiki, post it on the class blog, or print it for use in the classroom.

Some Possible Uses for Word Clouds in the Classroom

Examples of how we have used word clouds in the classroom include:

- **Have students create collaborative word clouds**, where a number of students input and edit text collaboratively, using Google Docs™ (https://docs.google.com) or TitanPad (http://titanpad.com/ref). For example, have students generate a list of synonyms, contractions, or tricky words and input them into a word cloud generator (see Figure 3.1 for a *Tricky Words* word cloud). The more the word is repeated in a text, the greater the size of that word in the word cloud. To connect words in a word cloud (e.g. the contraction *is not~isn't*), place a tilde (~) between the words you wish to connect.
- **Use word clouds before, during, and after reading.** For example, input text excerpts into a word-cloud generator and have students make predictions or analyze character traits based on the word cloud. See Figure 3.2 for a word cloud for *Charlotte's Web* (E. B. White 1952). At a glance, you can see the tenor and subject matter of a text at a macro level.

APPENDIX B

Recommended URLs

Chapter 2

Runescape
http://www.runescape.com

Wiki
http://www.pbworks.com

Chapter 3

Wordle™
http://www.wordle.net

Tagxedo
http://www.tagxedo.com

Google Docs™
http://docs.google.com

Titan Pad
http://titanpad.com/ref

WordSift
http://www.wordsift.com

Literacy Beat Blog
http://literacybeat.com/2011/05/03/vocabvid-stories-developing-vocabulary-depth-and-breadth-through-live-action-video/.