Introduction

There was a time, not all that long ago, when industrialized nations may not have ruled the world, but they were certainly on top of it. Good wages, a strong middle class, and security were taken for granted in these countries. But today, the outlook is different. The clothing we wear is manufactured in Thailand or Vietnam. The produce we eat is grown in Mexico or South America. The computers we use are assembled in China.

Offshoring and outsourcing may have been easier to ignore when the greatest impact was on blue-collar workers, but then white-collar jobs began shifting as well. Accountants in India began preparing tax forms online. Radiologists in Asia read X-rays taken in North America. High-tech jobs blossomed in Ireland. Suddenly, the middle class started taking notice. And then, the bottom fell out of financial markets worldwide. Now even the very wealthy are paying attention to how globalization at all levels is affecting them.

In the long run, this flattening of the world can be advantageous for everyone. But to realize these benefits, people from all walks of life, including (and perhaps especially) educators, need to let go of doing business as usual and begin adapting to the changing world. Emerging nations have been quick to pick up the gauntlet—perhaps because they had little to lose and everything to gain. Developed nations have been more resistant to making the changes needed to thrive in this new global society—perhaps because they fear they have everything to lose. But not taking action is a recipe for failure for these nations.

Students who live in industrialized nations around the world are increasingly disenchanted with the education programs being provided. They view educators who use traditional teaching methods as being out of touch. They rankle at completing the same projects and assignments their parents and even grandparents did when they attended school. They believe that the technology tools that are banned on campus are, in fact, the keys to success in their future.

The purpose of this book is to encourage school administrators, teachers, and support staff to look at mobile technologies and Web 2.0 tools

that students use on a regular basis away from school but that have not yet made their way into mainstream education. These inexpensive and sometimes even free technologies and tools could be used to revolutionize teaching and learning, but they have yet to gain widespread acceptance in educational circles.

The topics covered in the book fall roughly into three sections, book-ended by Chapter 1, which introduces 21st-century skills, and Chapter 10, which discusses issues surrounding digital citizenship. Chapters 2 through 4 examine inexpensive hardware in the form of mobile technologies that most students own or have access to, such as cell phones, netbooks, and MP3 players. These technologies could, with very little effort, make it possible to implement one-to-one computing initiatives in every school—if they were permitted on campus. Chapters 5 through 9 each take a look at Web 2.0 tools such as blogs, wikis, and social networks that can be used to support collaboration and communication in virtually any instructional environment—if they weren't blocked by network filters. Each chapter provides basic information about the emerging technology or tool being discussed along with strategies and practical suggestions for classroom use.

Discussion questions are also included in each of the first 10 chapters. These can be used to lead group talks in faculty and staff meetings, to provide guidance in planning committees or in a variety of adult learning situations. And each chapter includes extensive bibliographic references for further reading. Every effort has been made to provide up-to-date Web addresses (URLs) for these references. However, because of the changing face of the Internet, it is not possible to avoid updates that may result in new URLs. In this case, it is nearly always possible to find the site or article by searching using the title as the keyword(s).

What these chapters do not include is many references to research about whether the use of technology impacts student performance. This is not an oversight. Although many detractors appear to be stuck on this issue, it's asking the wrong question. For one thing, little research has been done because use in schools has been limited. But more important, most employers, parents, and students believe that the purpose of the prekindergarten through Grade 12 education system is to prepare pupils to be successful in the existing workplace and in their personal lives. If this belief is true, our charge is to identify and use the tools that will best prepare students to function in society now and in the near future.

In other words, it is incumbent upon educators to create engaging learning environments that mirror the real world and to ensure that students acquire the skills needed to function in these settings. Today, that means learning how to use various technology-based tools effectively and

ethically, but this will change again. To remain relevant, these learning environments will continually need to evolve as new technologies take root in the workplace. So what we need to ask is whether our schools are serving students well by providing up-to-date, relevant tools for learning the skills they need to lead successful lives.

These chapters also do not include references to multiple model projects. This is because projects where students are permitted to use the mobile technologies and Web 2.0 tools favored by students are few and far between and, in most cases, are very recent innovations. Where possible, good examples of models are mentioned; however, it is important to remember that, at this time, we find ourselves in the equivalent of the frontier. Until we are able to openly explore effective uses of these technologies as tools for teaching and learning, we are not going to be able to cite good models.

The final chapter of the book focuses on practical strategies for identifying and implementing use of emerging mobile technologies and Web 2.0 tools for instruction. This chapter includes a discussion about current issues and provides a decision-making model that can be used when selecting emerging mobile technologies and Web 2.0 tools for classroom use. The model includes tables to complete during information gathering and questions for discussion prior to making decisions. Because this field is rapidly changing, the tables provided in the model are open-ended to ensure applicability for some time to come.

Effective education is the foundation of successful societies. But in recent years, at least in developed countries, the survival of the existing institution seems to have trumped the importance of providing relevant, timely instruction. This trend can be changed, but the time to take action is now. One way to move education forward is to embrace emerging technologies that make it possible to implement programs where students master core academic content, hone applied 21st-century skills, and learn how to find success in an increasingly digital world.