Writing a worthwhile book on technology in education is not an easy task. In fact, the process of integrating technology that is both useful and beneficial into education is not an easy task. During the 1970s, when personal computers were emerging as a technical and then a social phenomenon, there were lots of false starts, blind alleys, and technical as well as pedagogical problems. I remember giving a talk at a conference in West Texas, and three worried teachers approached me during a coffee break. They wanted me to talk to their principal about his ideas for integrating technology into their elementary school. He had bought a computer for each of the teachers in May, and he wanted them to spend the summer developing teaching materials to be used with the computers. In the fall, the school would begin to use the computers in the classrooms.

At first, it sounded like a good idea, but the teachers quickly explained how they were to accomplish this worthy goal. At the time there were very few pieces of “educational” software, only one or two word processing programs, and precious few computers with anything but an ordinary cassette recorder for data storage. However, every personal computer came with an operating system and a version
of the BASIC programming language. What the principal had in mind was for the teachers to spend their summer learning to program the computer in BASIC and then using their newly acquired knowledge to write computer programs for use in the classroom. The teachers had no idea how to begin this task and they were afraid to tell the principal.

The saying, “To someone with a hammer, the whole world looks like a nail” is an apt summary of those early days. We had a few drill and practice educational programs, a word processor or two, and the BASIC programming language. Hundreds of books, thousands of articles, and untold numbers of conference presentations, workshops, seminars, and panel sessions were devoted to helping educators place those three tools to use in the classroom.

A quick scan of the table of contents for the book Irene Chen and Jane Thielemann have written provides clear evidence that times have changed drastically. Programming in BASIC, which was a staple of computer literacy courses in the 1970s and early 80s, is no longer with us. Although word processing is still around, it has morphed into productivity software that includes both sophisticated text manipulation and multimedia applications. The use of computers in the classroom has grown exponentially from simple drill and practice math exercises to a wide array of methods and strategies involving multimedia technology and the use of the Internet for support teaching and learning.

The integration of technologies into education has come so far from those early beginnings that there are now national and state standards for what teachers, and students, should know and be able to do. This book is based on those standards, or competencies, and manages to address two different but related goals: to induct teachers into the sometimes mysterious and confusing realm of information technology hardware and software, and to help teachers see how that expertise can be successfully applied in the classroom. You might call the first goal “general computer literacy” and the second “profession-specific literacy.” Few would argue with the assertion that today everyone needs to be computer literate. Educators need to be able to use routine tools such as word processors, databases, programs for creating multimedia materials, and the various packages, such as browsers and e-mail programs, for accessing and using the Internet. That is not enough, however. If you are a nurse, physician, lawyer, or architect, there are specialized programs and specialized uses of information technologies that apply specifically to that profession. Lawyers must be able to use case management software and the Lexis/Nexis database. Architects must master computer-aided design (CAD) programs such as AutoCAD. Members of professions must move beyond the ordinary computer literacy everyone needs and become proficient in the uses of information technologies that are particularly relevant to their work. That applies to education as much as it does to other professions. Chen and Thielemann have combined general and profession-specific literacy in this book, which was written specifically for the teaching profession, and they have combined hardware and software literacy topics with what I would call “professional skills.” This book covers many of the professional tasks a teacher must
be able to do with the help of technology, such as design instructional materials, perform professional jobs, and communicate and teach via multimedia materials delivered in many formats, from print to online. I commend the authors for their accomplishment. Chen and Thielemann meet an important need at a time when the potential for technology in the classroom is high, but we have not yet turned that potential into day-to-day practice. This book should help.

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