This book review aims to assist instructors in their selection of textbooks for entry-level or intermediate educational technology courses or workshops for teachers. It discusses four major textbooks: *Instructional Media and Technologies for Learning*, by Heinich, Molenda, Russell, and Smaldino; *Teachers Discovering Computers: Integrating Technology in the Classroom*, by Shelly, Cashman, Gunter, and Gunter; *Integrating Educational Technology into Teaching*, by Roblyer; and *Integrating Computer Technology into the Classroom*, by Morrison and Lowther.

These books are reviewed considering five dimensions: (a) computer literacy and skills, (b) teaching and learning theories, (c) technology integration strategies, (d) resources for students, and (e) resources for teachers. Considering that the choice of textbook depends on the instructor’s educational goals, the review concludes with recommendations for textbook adoption in entry-level and intermediate educational technology courses. The overall evaluation of these books with respect to these five dimensions is presented in a table.

Numerous introductory textbooks in educational technology are being published each year. Given the number of available textbooks with various qualities and emphases, searching and selecting the appropriate text can be time-consuming. To assist instructors in selecting the appropriate textbook for their introductory educational technology courses, this book review discusses four of the most important textbooks that introduce educational
technology to teachers.

The review departs from the widespread practice of reviewing textbooks only one at a time, an approach that does not permit a systematic investigation of strengths and weaknesses of different books for different purposes. Instead, these texts, which are among the most important ones in the field, are reviewed together considering the following five dimensions:

1. *Computer literacy and skills.* The book’s coverage of basic information about computers (e.g., hardware and components, software, what they do, and how they work).

2. *Teaching and learning theories.* The book’s coverage of learning theories, instructional design and research findings regarding educational computing.


4. *Resources for students.* Accompanying materials for students such as a Web site, on-line tutorials, and so on.

5. *Resources for teachers.* Accompanying materials for instructors, such as test banks, visuals, instructor manuals, and so on.

This review discusses the books individually first, and then presents a summary comments and a comparison table.

*Instructional Media and Technologies for Learning (7th ed.)*

This book, presently in its seventh edition, targets introductory courses in educational technology, and no prior knowledge of computer literacy is assumed. It has been one of the most popular books in the field since 1982. The book begins with a reasonable treatment of teaching and learning theories; however, the explication of the applications of these theories is not as explicit as they might be. The second chapter provides a useful but general description of different types of educational technologies, including tutorials, drill and practice, simulations, games, and technologies for
collaboration. The main feature of the book, and one of its strengths, is the ASSURE model, which is introduced in the third chapter. ASSURE is an abbreviation of six steps in lesson planning, including Analyzing learners, Stating objectives, Selecting methods, media, and materials, Utilizing media and materials, Requiring learner participation, and Evaluating and revising. This model has been widely accepted and used in other educational technology textbooks.

Subsequently, in Chapter 4, the book discusses topics that are not typically treated in educational technology texts, including manipulatives, printed materials, display surfaces, field trips, and free and inexpensive materials. Chapter five covers visual principles, including the importance of visuals in teaching, visual literacy, and the process of visual design. It describes the steps that a teacher would take in arranging the visual and verbal elements to achieve clear communication. It provides excellent examples of using visuals in teaching with some examples of inappropriate uses. Although well done, much of the material in this chapter would be more appropriate for other courses such as instructional design.

The book discusses computer literacy and skills in chapters 6-10. These chapters cover technologies, such as projectors and projected materials, audio, video, and computers. One hundred and twenty pages of the book are devoted to explain and classify audio-visual technologies. Although the materials in these chapters are useful, many of them are not essential. For example, illustrating different parts of a slide projector or how a compact disc is developed are not likely to be teachers’ main interests for an introductory educational technology course.

Chapters 11 and 12 discuss material related to networks, characteristics of the Internet, intranets, World Wide Web, local area networks, broadcast radio, audio/video conferencing, and some ethical and technical issues. Some innovative pedagogical applications of the Internet are also discussed, including Classroom Connect and WebQuests. The last chapter of the book, concerning looking ahead, provides a realistic view of developments, such as merging media formats, continued use of traditional audiovisual media, and the pervasiveness of Internet-based instruction.

A drawback of the book is that, although the book is published in 2002, the accompanying CD was created in 1999. The CD contains a tool to create lesson plans and some evaluation checklists for appraising educational
resources such as educational software, video, and print materials. The book also has an accompanying web site, which includes a course syllabus development tool, some PowerPoint presentations for instructors, and also some links to educational resources. Users will find summaries for each chapter, multiple choice, true/false, and essay questions with which to test their knowledge of chapter content. Students also have access to portfolio activities and integration assessments, which offer further opportunities to work with chapter content and themes.

In summary, a unique feature of the book is the in depth discussion of applications of audio, graphics, video, and multimedia in teaching and learning, discussed in detail with some examples of appropriate and inappropriate applications. Thus, a strength of the book is technology integration through various examples and the ASSURE model. In the area of accompanying resources, the book provides useful but dated materials. In the area of teaching and learning theories, the book provides a treatment that is reasonable, but makes limited explicit connections to teaching.

*Teachers Discovering Computers: Integrating Technology in the Classroom (2nd ed.).*

This book is intended for educators in undergraduate and/or graduate level introductory educational technology courses and for those attending in-service workshops. Supported by its ample accompanying web site, this book is relatively comprehensive in terms of the resources that it has to offer for the development of computer skills. Although it includes some educational theories, issues, and technology integration strategies, its main emphasis is on computer literacy. The book does not assume much prior computer knowledge, so is appropriate for readers with limited computer skills.

The major content of this book reflects the emphasis on “learning about computers.” This book devotes six out of its eight chapters to introduce basic computer operations, computer communications, software applications, hardware applications, multimedia and educational software, security issues, ethics, and emerging technologies. These chapters (1-5 & 8) explain computer terminologies in detail and include vivid depictions of computer applications in education. In addition, two other chapters devoted to technology integration are Chapter 6, Education and Technology Integration, and Chapter 7, Integrating Educational Technology into the Curriculum.
Chapter 6 introduces technology integration and its pertinent issues, elaborates planning for integration in various educational settings, presents the ASSURE instructional model, and includes a section on learning theories and educational research last. Chapter 7 further addresses integration strategies and concentrates on evaluation of educational software, web resources, and the effectiveness of technology integration. This chapter also briefly covers funding opportunities supporting classroom technology integration. While loosely connected, the chapters are full of useful information. At the end of each chapter are segments of chapter summaries, glossaries, study guides, education issues, resources for integration and software applications, and lab activities. Many segments of the book have their on-line counterparts available at the textbook web site.

As supporting materials for students and instructors, the accompanying web site adds hyperlinks and many other online features. The hyperlinks, though several of which are broken, lead the readers to further resources relevant to the topics under discussion. This review found that students would benefit most from “Interactive Labs,” which are multimedia tutorials aimed at strengthening their understanding of the computer concepts discussed in the book. The publisher supplies two CD-ROMs to instructors upon request. One is a course presenter CD, which includes a collection of all the illustrations presented in the book as well as PowerPoint presentations that deliver the major content of all chapters. As instructors, the authors of the present article did not find the PowerPoint presentations or the item pool particularly useful. The second CD-ROM contains teaching tools, such as the instructor’s manual, course syllabus, Examview testbank, interactive labs, and instructor’s lab solution. In comparison to the rich and useful materials available for students, the supporting materials for instructors are relatively less developed.

This book is strong in its heavy coverage of computer basics and applications in education. Enhanced by numerous visuals, the book provides readers with a foundation for the building of their computer skills. The clear, step-by-step illustrations and multimedia online tutorials are especially beneficial for the acquisition of computer-related concepts, procedural knowledge, and hands-on skills. For instance, for readers wishing to learn about Internet searches, the book is equipped with all the information that they need, such as Internet basics and searching techniques, to conduct an effective search. There are also various online resources and clearly spelled-out tutorials (e.g., “Maintaining Your Hard Drive”) that facilitate hands-on
activities. Moreover, the book covers very useful information for teachers. Every chapter, after the presentation of its thematic topic, lists prompts or scenarios to relevant classroom practices and issues that stimulate contemplation and discussion. Also available are guidelines and recommendations for planning lessons and for developing, evaluating, and sustaining school technology programs.

Nevertheless, the abundance of resources is the major weakness of the book. Beginners in the field may easily become disoriented in the sea of information, particularly when the information is fragmented. The book can be divided into two distinct sections, computer literacy (Chapters 1-5, 8) and integration literacy (Chapters 6-7). On the one hand, the computer literacy section, with little discussion on pedagogical aspects, supplies few ideas systematically demonstrating technology integration in classrooms. On the other hand, the integration section provides more declarative information rather than practical examples or guidance illustrating the integration of the computer applications. Because the book does not offer helpful conceptual organizers to integrate the two sections, it puts onto its readers’ shoulders the burden of connecting computer knowledge with integration strategies. The lack of an overt connection among ideas or information is also prevalent within chapters. For example, Chapter 6 inserts a 22-page section on learning theories but fails to convincingly relate this section to the rest of the chapter, not to mention the rest of the book. Very often, its readers have to put piecemeal components together to figure out a big picture of technology integration.

In summary, the book has an extensive coverage of basic information about computers. Compared to the heavy coverage of computer literacy, the treatment of learning theories and integration strategies is less adequate. Moreover, the combination of “technology” and “integration” is far from seamless. Readers may need additional help with integrating the ideas mentioned in the book as well as with developing and running technology-based lessons. Despite these limitations, this book, especially with its supporting materials for students, provides a very useful source for introductory educational technology courses and workshops.

*Integrating Educational Technology into Teaching (3rd ed.)*
Margaret D. Roblyer (2003).

This book provides excellent examples, in a variety of different subject areas, of ways of integrating technology. Although the book is less developed
in the area of computer literacy and skills, technology integration and learning theories are presented very well. The book overviews the “big picture” of educational technology and reports some of the most useful and practical research findings in the field. Unlike other books in the field, it does not provide just a list or just a general definition of computer applications in teaching. Instead, the first section (Chapters 1-3) discusses the knowledge and skills teachers need to prepare themselves to apply technology effectively in classroom.

Section 2 (Chapters 4-7) provides the readers with excellent examples of integrating word processing, spreadsheets, database, and other multimedia and hypermedia software in teaching and learning. For example, teachers learn how many ways they can use a word processor in teaching different subject areas. This section helps teachers learn to match specific types of educational software to their specific needs. Chapter 7, in particular, focuses on some of the most promising technology resources in education today. Also this chapter describes commercial multimedia software and interactive video systems, and authoring systems, including presentation software, digital video editing system, and multimedia/hypermedia authoring systems.

Section 3 (Chapters 8 and 9) introduces resources for teachers and students. The author discusses the applications of the Internet and other distance education resources into curriculum. The main advantages of this section over similar chapters in other textbooks are the author’s vision of the underlying potential the Internet has and also the link (road map) from the present to the near future of the Internet technology. This section helps teachers identify the role that the Internet resources and strategies can play in teaching and learning. In addition, the author provides readers with detailed applications of new technologies, such as wireless networking, virtual reality, expert systems, handheld systems, and mobile computer-based science labs.

The author refers back to technology integration again in Section 4 (Chapters 10-15). Each chapter of this section explains technology integration in a specific subject area. Chapter 10 describes current issues in language arts and foreign language instruction and how technology is integrated into language arts. Chapter 11 describes integration strategies for using technology in mathematics and science instruction. Chapter 12 discusses different applications of technology in social studies. It is argued that as an area that focuses on the interconnections of people and the earth, social studies education has been affected more than other fields by the impact of technology, particularly by the Internet. The applications of technology to art and music
are rarely discussed in detail in other similar textbooks. However, Chapter 13 explains in detail how technology provides tools, materials, and processes that help students’ creativity. Finally, Chapters 14 and 15 introduce the applications of technology in physical and special education.

The accompanying CD includes some well developed pre-made lesson plans that are editable. The user is able to view them in alphabetical order or use the search tool to find a requested lesson plan. The book also has an accompanying web site, which includes a course syllabus development tool. Instructors can use this tool to build an online syllabus for each course they teach. The syllabus appears as a link in the navigation bar of the companion web site. Students can review chapter content using Chapter Objectives, and can also test their knowledge by taking interactive multiple choice Self-Tests. These quizzes provide immediate feedback with a percentage score and correct answers. In addition, the Portfolio Activities may help students build their own electronic professional portfolios.

Generally, if students have some basic computer skills, this book is an excellent choice. Technology integration is the main strength of the book, and also a variety of content areas are covered. However, this book is less suitable as a textbook for learning basic computer skills. The book is a good resource for teaching and learning theories. Because of this, it is recommended as a reference book for researchers interested in the area of educational technology. The book is also strong in the area of resources for students and teachers.

**Integrating Computer Technology into the Classroom (2nd ed.).**

*Gary Morrison and Deborah Lowther (2002).*

This book is, according to its preface, intended for preservice and inservice K-12 teachers with basic computer operating skills, such as opening and saving documents. The authors emphasize an approach to using computers in education that is aligned with educational reforms emphasizing student-centered learning. Accordingly, the authors lament surveys indicating that the classroom use of computers has emphasized “delivering” instruction by way of modes such as drill and practice. They also argue that for computers to contribute significantly to educational reform, computer technology should be viewed and used as a problem-solving tool. Students should be able to use computers the way computers are used in the workplace. That is, instead of working on tutorials, drill-and-practice, or educational games,
students should make use of computers to identify problems, formulate hypotheses, collect data, analyze findings, and present results.

The 15 chapters of this book centers around an approach to integrating technology into teaching called iNtegrating Technology for inquiry (NTeQ). This framework (the “model” according to the authors) guides teachers to design, facilitate, and manage student-centered, inquiry-based learning that incorporates technology as a tool. The organization of these chapters is logical and very easy to follow. Chapter 1, Rethinking Computers and Instruction, promotes the concept of viewing computers as a tool in classrooms and sets the scene for the introduction of the NTeQ philosophy in Chapter 2. The second chapter also begins the detailed illustration of NTeQ. Its 10 components, including specifying objectives, activities while at computers, and assessment, are further elaborated upon in Chapters 3 to 8, which focus on the roles of teachers as designers, facilitators, and managers. Chapters 9 to 14 demonstrate the use of this model in developing and implementing instruction integrating the following computer applications respectively: word processing, spreadsheets, databases, presentation tools, and the Internet. The last chapter shifts the spotlight to teachers and discusses their use of computers to facilitate classroom management and communication with parents. All chapters of the book fit well together and connect to the central theme, using technology as a tool.

With respect to the supporting materials, the publisher hosts an accompanying Web site and provides an instructor’s manual and a CD-ROM with a test bank. The web site includes introductions and key topics for each chapter, questions for reflection, and integration activities, which offer opportunities for students to work with chapter content and themes. There are also various Internet resources pertaining to the materials covered in each chapter. Moreover, within each online chapter there are Message Board and Chat Room features that allow readers to communicate with students and professors nationwide about pertinent topics and issues. Also available online are many sample lesson plans using the NTeQ model and a lesson plan builder, which may serve as a template for students to create their own lessons. The instructor’s manual provides tips and worksheets for classroom activities. As for the test bank in the CD-ROM, contrary to the inquiry-based and constructive approach advocated by the authors, the test items provide a counter-example. Ironically, these items test rote learning discouraged in the book.
In summary, the book is less developed in computer skill development and in information technology literacy. Its major strength is technology integration, through its well-illustrated examples grounded in the NTeQ framework. These examples, ranging from a variety of subject areas and across grade levels, prove the complexity and importance of lesson planning and takes readers further from planning to action. They not only clarify the NTeQ model but also reinforce the teaching strategies covered in the text. Moreover, the examples, covering several software types such as word processing and spreadsheets, are not platform or brand dependent. They are general enough to be applied in classrooms with various computer capabilities.

SUMMARY AND RECOMMENDATIONS

The textbooks have strengths in different areas, so the choice of one would depend on one’s educational goals. For an entry-level educational technology course having students with limited computer skills, both the Heinich and Shelley Cashman texts are suitable. In our opinion, the Shelley Cashman book has the edge in the areas of computer skills and supporting materials for students. For an educational technology course that can assume a greater level of technology proficiency, both the Roblyer and Morrison and Lowther texts are good choices. The Roblyer text gives more emphasis to on articulating multiple teaching and learning theories as they apply to technology. It also has more fully-developed supporting materials for the instructor. On the other hand, the Morrison and Lowther text, through its NTeQ framework, has the most elaborated treatment of constructivist teaching using technology. Table 1 summarizes the reviewers’ judgment of the extent of each textbook’s treatment of each of the major dimensions.
Table 1

Reviewers’ Judgment of the Extent of Each Textbook’s Treatment of Each of the Major Dimensions

<table>
<thead>
<tr>
<th>Textbook</th>
<th>Computer Skills</th>
<th>Teaching &amp; learning theories</th>
<th>Technology Integration</th>
<th>Supporting Materials for Students</th>
<th>Supporting materials for Instructor</th>
<th>Recommended Level</th>
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<tbody>
<tr>
<td>Heinich, Molenda, Russell &amp; Smaldino (2002)</td>
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<td>■■</td>
<td>■■</td>
<td>■■</td>
<td>■■</td>
<td>Introductory</td>
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<td>Shelley, Cashman, Gunter &amp; Gunter (2002)</td>
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<td>■</td>
<td>Introductory</td>
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<td>Roblyer (2003)</td>
<td>■</td>
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<td>■■</td>
<td>■</td>
<td>Intermediate</td>
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Key:

■ Topic developed to some degree
■■ Topic moderately developed
■■■ Topic highly developed

References


