



# Clips from the Classroom

## Learning with Technology

### DVD and Activity Guide



PEARSON

Merrill  
Prentice Hall

Cathy Cavanaugh

# **Clips from the Classroom:** *Learning with Technology*

## **DVD and Activity Guide**

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Prentice Hall

Upper Saddle River, New Jersey  
Columbus, Ohio

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This book was printed and bound by Banta Book Group. The cover was printed by Phoenix Color Corp.

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10 9 8 7 6 5 4 3 2 1

ISBN: 0-13-171274-8



## **Preface**

### **Introduction**

This activity guide and DVD bring you into classrooms and schools where teachers are using technology to improve learning for students across grade levels and content areas. The video clips on the DVD are organized into four sections: Transforming Teaching and Learning, Software and Media, The Internet and Virtual Schools, and Technology across the Curriculum. To prepare you for using technology in your teaching, this guide provides information and activities about getting to know today's students (knowledge), planning for technology-enhanced learning (skills), and continuing your development as a technology-using educator (professional dispositions, values, commitments, and ethics). The book also guides your visits to the classrooms on the DVD with activities and reflection questions. Each teacher featured on the DVD shares unique viewpoints, practices, and styles as a master technology-using educator.

### **Technology-enhanced teaching and learning**

There are many ways to use technology to enhance teaching and learning. When access to technology is limited, students can learn from technology-delivered presentations and text that they or their teachers produce. Teachers can perform some of the management tasks of their jobs more efficiently by using technology such as electronic grade book software, telecommunications, or word processing. When technology is available for hands-on work, teachers and students can use technology to learn in new and different ways to do things they wouldn't otherwise be able to do, like visualize and interact with simulations of unreachable times and places in multiple dimensions. Each of these uses of technology in education offers different benefits and reflects different conceptions of the purpose of technology in education.

Technology can support, enhance, and transform the teaching and learning processes, depending on how it is used. Technology-enhanced teaching and learning happens when technology is used in ways that benefits students and leads to improved educational outcomes. Because "the success or failure of technology is more dependent on human and contextual factors than on hardware or software" (Valdez et al., 2000), this book focuses less on the hardware, software, and infrastructure, and more on the instructional vision and informed judgment of the teacher, who develops knowledge of when and why to use the technology.

### **Organization of the text**

This guide provides information about the technical steps for using the features of the DVD. It also includes contextual information and guiding activities to use before and after viewing video segments. The guide contains five chapters.

The first chapter, Learning with Technology in Action, describes each teacher featured in the video segments. An introduction to the teacher is followed by an overview of the concepts shown in the segment and questions to guide your thinking and reflection about the segment. Chapter 2, Getting to Know the Students in Today's Schools, introduces you to the students who are learning in today's classrooms. You'll get to know how they think, how they learn, and the role of technology in their lives and education. Chapter 3, Effective Technology for Today's Students, provides strategies and rationale for choosing technology for teaching. Benefits and cautions for using educational technology are discussed, and methods for evaluating technology are included. Chapter 4, Planning for Technology in Teaching and Learning, focuses on planning for teaching with technology. It

describes professional development approaches for teachers who want to use the most effective technology to enhance student learning, and it offers guidance for preparing technology-enhanced lessons and units. The fifth chapter, *Expanding the Classroom with Technology*, highlights ways that teachers are using technology to involve families and the community in student learning.

The Resources section presents a collection of materials, including assessment rubrics, sample responses to reflection questions, and bibliographic and web references.

### **DVD video themes**

Four themes are used on the DVD to organize the video segments. The segments were filmed in elementary, middle, and high schools, and in a K-12 school for students who are deaf and blind. They show teaching in social studies, mathematics, science, English language arts, foreign languages, visual arts, and music. The students represent diverse cultural, ethnic, linguistic, and socioeconomic backgrounds, as well as a range of academic abilities in grades 1-12.

- **Theme 1: Transforming Teaching and Learning.** Here we see teachers in two schools where innovative, creative, and thoughtful uses of technology have changed the ways that students are learning and teachers are teaching. Valarie Young invites us into her high school World History classroom at the Advanced Technology Academy in Las Vegas, Nevada. In Valarie's class a range of technology is seamlessly integrated into the classroom culture. Therese Keith, mother of one of Valarie's students, tells us about the importance of technology for her son. Mary Lynn Smith and her high school Spanish students at the Bolles School in Jacksonville, Florida, have learned to use technology to make their class more engaging and interactive. Mary Lynn's colleagues join together in a conversation about how technology has changed their role in their classrooms.
- **Theme 2: Software and Media.** We visit four schools in the second section. Shelly Couch and Amy Eisler take us inside their 5th grade classrooms at Cunningham Creek Elementary School in Jacksonville, Florida. They teach science and mathematics to students who use software tools on their own laptop computers. We follow a group of 6th grade students on their expedition into SpaceLab at the Challenger Center in Jacksonville, made possible by using simulation software. In Mike Patterson's high school geometry class at the Advanced Technology Academy, students use mathematics modeling software as part of an inquiry learning experience. In the 1st and 4th grade classrooms of Jennifer Salley and Caryn Canfield at the Bolles School, students learn social studies and subtraction by creating their own presentations and then sharing them with the class using tablet computers.
- **Theme 3: The Internet and Virtual Schools.** In this section, two virtual schools and two school-based classrooms are featured. At the Odyssey Charter School in Las Vegas, high school and middle school students meet together on campus with teachers once each week, and learn by using the communications capabilities of the Internet for the rest of the week. At the Florida Virtual School, based in Orlando, Florida, students in grades 6-12 take classes completely online. In the classrooms of Valarie Young and Mike Patterson, the Internet is used in the classroom during large group activities and as a rich source of information for small group and independent student learning.

- **Theme 4: Technology across the Curriculum.** In this section, we explore a range of strategies used by teachers in six different academic areas and in classrooms for students with special needs. Each teacher uses technology in unique and effective ways, depending on the individual teaching style, the demands of the content, and the learning needs of the students. Patty Kmiecik's high school students at the Bolles School are thoroughly engaged in her literature lesson in part because of her use of multimedia. Kate Pritchard's students at the Episcopal High School of Jacksonville use language lab software that provides them with extended time for guided practice in dialogue. Mike Patterson's high school trigonometry students use a discovery learning approach aided by graphing calculators. Don Page uses the software tools of the tablet computer to draw his high school students at the Bolles School into the Trojan Wars. Richard Chamberlain's photography students at Episcopal analyze work shown on an Internet gallery, and then they apply their knowledge to their own digital photos. Lynn Howard's students at Episcopal use music composition software to compose and play original pieces that demonstrate their understanding of music concepts. Colette Cook and Teresa Smith use SmartBoards with their elementary and middle school students at the Florida School for the Deaf and Blind in St. Augustine, Florida. The technology enables hands-on practice with language skills to students who are deaf and hard of hearing.

## Features

To better understand the practice of technology-enhanced teaching and learning, you are provided with supports in this book.

- Each chapter connects to National Educational Technology Standards for Teachers (NETS-T)
- Each video teaching example is linked to NETS for both teachers and students.
- Each chapter includes questions and activities.
- This activity guide includes a bibliography and a "webliography" for further study.

## Acknowledgments

In the process of working on this project, we met a capable, caring, and committed group of educational professionals who graciously invited us into their classrooms, both real and virtual. Each of the teachers cares as much about teaching the next generation of teachers who will learn from this film as they do about teaching the next generation of citizens in their classrooms. To them we are grateful:

Heidi Allen  
Craig Butz  
Caryn Canfield  
Robert Carter  
Richard Chamberlain  
Colette Cook  
Shelly Couch  
Amy Eisler  
Lynn Howard  
Sheree Kearns  
Therese Keith  
Patty Kmiecik  
Don Page  
Mike Patterson  
Kate Pritchard  
Don Reott  
Jennifer Salley  
April Schmidt  
Mary Lynn Smith  
Teresa Smith  
Valarie Young

## To the Reader

Consider the role that technology plays in your life. You may be a technophile who depends on a laptop or desktop computer, a cell phone, a handheld computer, and other chip-driven devices for communication, organization, productivity, information, entertainment, and creative activities. Even if you are a technophobe who tends to avoid technology in your own life, you depend on the technology around you to manage transportation, medical care, commerce, media, and other aspects of life. When asked to name an occupation in which technology is not used today, most people can name just a few jobs.

Technology is powerful. It has enormous potential, including the ability to help students learn in new and deeper ways. Using technology in classrooms requires change: physical change in the infrastructure of schools, change in staffing to manage the technology, change in how students approach their learning, and change in how teachers approach teaching. Technology is not perfect, and it is not always easy, but it is becoming ubiquitous and necessary in education.

This book and DVD will introduce you to teachers and students who have successfully embraced technology in their classrooms. It will show you reasons for learning to use technology in teaching, and methods for teaching with technology. When you see and hear the students and teachers shown here, you will feel their passion, excitement, and success, and you will know why the change is worthwhile.

### What Is Technology?

Technology has existed for as long as people have used tools. Technology is broadly defined as an innovation, modification, or application of knowledge to solve problems or meet human needs. Educators have been especially adept at adopting technology for teaching. Recall that the book, pen, chalkboard, overhead projector, and television were all once new to classrooms. They have now become an inseparable part of the education experience, each adding a new, valuable capability to the classroom. Digital technology is the new learning technology of our generation.

### Becoming an Effective Technology-Using Educator

It is hard to imagine a future in which technology does not play an increasingly central part in life. Technology affords individuals access to an unimaginable wealth of information that improves quality of life. Technology skills open doors to an expanded range of careers. Technology increases every student's menu of education choices, and extends his or her abilities as a learner. Technology adds efficiency to the bureaucratic tasks of teachers. In short, there are many reasons to become a technology-using educator.

The most effective technology-using educators have the following dispositions:

- An open mind about the benefits that technology can offer professionally and personally
- Confidence about being able to learn to use new technology
- A belief in the value of lifelong learning for everyone
- A sense of pride in being a learner in the classroom alongside students, and sometimes learning from students
- Trust in a network of professional contacts to ask for assistance, advice, and support
- A creative approach to designing lessons



- Excitement about the potential of new technology
- Recognition of the importance of technology in their students' lives
- Knowledge that their colleagues are among their most valuable resources

### **Welcome to *Clips from the Classroom: Learning with Technology***

Each teacher finds unique ways to use classroom resources that work with his or her own teaching style. Just as not every teacher uses the chalkboard in the same ways or for the same amount of time, not every teacher uses the same technologies in the same ways. Fortunately, teachers are professional sharers—they can be counted on to teach each other. The teachers and students you see on this DVD have volunteered to teach you, and there are many like them in schools everywhere. Such teachers will be honored when you ask them to share what works in their classrooms. This guide and DVD are a jumping-off point designed to get you started on a path of effective technology-enabled teaching. We believe you can learn something new about good teaching from each teacher featured here, and we are certain you will someday share your skills with another teacher.

# GETTING STARTED WITH THE DVD

## USERS' GUIDE FOR CLIPS FROM THE CLASSROOM: LEARNING WITH TECHNOLOGY

### Installation and Use Instructions

#### DVD Deck Operation

1. Insert DVD in tray. Wait for a short time while the program loads.
2. The title and main menu screen will appear ready for you to make a selection.
3. Using the remote control, switch the remote to DVD operation.
4. Using the arrow keys on the remote, scroll through the menu study titles and navigation button located in the lower, right-hand portion of the screen that says "Next". The right and lower arrow keys will scroll down and the left and upper arrow keys will scroll up.
5. The study or the navigation button that is selected at any given time will turn the color red. If you press "Enter" on the remote, the content on the screen will change.
6. The screen now will show the submenu for a particular study and the navigation buttons in the lower, right-hand portion of the screen.
7. Once again, using the arrow keys on the remote, scroll through the various video clip titles and/or navigation buttons.
8. Pushing the "Enter" button on the remote will cause a video clip to play. If a navigation button is selected (and turns red), it will take you to the main menu or another study menu.
9. Once a video clip is playing, the remote controls can be used to Stop, Pause, Fast Forward, Fast Reverse, or return to the Main Menu.
10. While video clips are playing, the arrow keys on the remote control can also be used to skip to the next video clip within a study or skip back to the previous video clip in the same study.

#### Computer Operation

1. Insert DVD in the CD-ROM/DVD tray. Wait for a short time while the program loads automatically. If the DVD does not load automatically on the PC, then open a DVD player such as Windows Media Player. For Windows Media Player, go to Start (lower left-hand corner), then All Programs, then find Windows Media Player in the programs list. Other DVD players such as Inter Actual Player or InterVideo WinDVD 4 may also be available in the list. Double-click on the player image to open it. Then click on the Play button and the DVD should open to the first screen. A DVD on Macintosh computers usually opens automatically, but in the case it does not, then go to the DVD player in the Application folder on the hard disk and open it manually. From there on, the program should open to the first screen.
2. The title and main menu screen will appear ready for you to make a selection.
3. To view full screen, click on the full screen button with the computer mouse. The full screen button is located in the lower right-hand corner of the viewing screen in Windows Media Player. Every player has this option, but the controlling buttons are in different locations. Each player's Help section may be of use.

4. Using the computer mouse or the keyboard arrow keys, scroll through the menu study titles and navigation button located in the lower right-hand portion of the screen that says "Next." The right and lower arrow keys will scroll down and the left and upper arrow keys will scroll up.
5. The study or the navigation button that is selected at any given time will turn the color red. If you press "Enter" on the keyboard or click with the mouse on the red-colored title or navigation button, the content on the screen will change.
6. The screen now will show the submenu for a particular study and the navigation buttons in the lower right-hand portion of the screen.
7. Once again, using the arrow keys on the computer keyboard or the computer mouse, scroll through the various video clip titles and/or navigation buttons.
8. Pushing the "Enter" button on the keyboard or clicking with the mouse on the video clip title will cause a video clip to play. If a navigation button is selected, it will take you to the main menu or another study menu.
9. Once a video clip is playing, the player controls can be used to Stop, Pause, Fast Forward, Fast Reverse, or return to the Main Menu.
10. While video clips are playing, the skip buttons on the player control can also be used to skip to the next video clip within a study or skip back to the previous video clip in the same study.
11. Push the Esc button on the computer keyboard to end the program.

# *Clips from the Classroom: Learning with Technology* DVD and Activity Guide

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# CHAPTER 1

## LEARNING WITH TECHNOLOGY IN ACTION

### THEME 1: Transforming Teaching and Learning

Students in today's schools are different from students attending school during past generations. Their lives, interests, and abilities have changed as a result of changes in society. Teachers have changed their practice, too, and some of the change is related to technology. Throughout the *Clips from the Classroom* DVD, you will see teachers who have changed their teaching to better meet the needs of their students by using technology. In the clips listed below, two teachers have invited us into their classrooms to see the effects of transformed teaching on student learning.

Below is a list of the ten clips related to Transforming Teaching and Learning. Please watch these clips before considering the discussion and reflection questions that follow.

#### **Student Achievement Increases.**

Student motivation and engagement are evident in Valarie Young's class, and she has seen her students' achievement increase as she has transformed her teaching to use more technology. Valarie teaches high school world history at the Advanced Technology Academy in Las Vegas, Nevada.

#### **Technology Improves Teaching Skills.**

Valarie Young is a relative newcomer to classroom technology integration. She developed skills as a result of several professional development experiences, and she sees herself as a lifelong learner.

#### **Technology Manages Flow of Activities.**

On a typical day in Valarie's class, students learn by using the Internet, digital video, and presentations, among other technology. The technology supports learning that alternates between directed and constructivist approaches.

#### **Assessment Examples Illustrated.**

Valarie uses multiple strategies to assess her students' learning when they use a range of technology with other classroom resources. Her students are learning Greek history with multimedia, and Valarie gives examples of the assessments she uses to be sure her students meet the content standards for the course.

#### **Secondary Students Respond Positively.**

Valarie has seen changes in her own teaching as well as in the learning of her students since she began teaching with technology in her social studies classes. In her classes, there is a seamless flow among the technologies and other materials used by students.

#### **PowerPoint Guides and Prompts Teaching.**

One of Valarie's challenges in teaching with technology has been selecting the technology that is appropriate to the learning situation. Her students are engaged in their world history lesson in part because of the multimedia presentations Valarie has designed.

### **Parent Pleased with Son's Opportunities.**

Therese Keith's son attends the Advanced Technology Academy in Las Vegas. He selected the technology magnet school to help him achieve personal and professional goals. His success is made possible by the shared vision of students, parents, teachers, and administrators who recognize the value of technology for learning, and who have made a commitment to create a culture supportive of innovative uses of technology.

### **Tablet Computers Facilitate Learning.**

A group of high school teachers at the Bolles School in Jacksonville, Florida, has just begun using tablet computers with their students. Each teacher has developed a unique approach for integrating the technology to complement his or her teaching style, content area, and students.

### **Students Discuss Tablet Use.**

Students at the Bolles School have benefited from their school's innovative use of technology. They discuss examples from their courses.

### **Tablet Computers in Spanish.**

Mary Lynn Smith integrates her tablet computer as an interactive tool for teaching and learning Spanish at the Bolles School. Scenes from her classroom show the interactive and engaging potential of the tablet and projector.

## **Discussion Questions**

1. Technology is used in teaching and learning for many purposes, such as increasing student interest and motivation for learning, increasing student time spent interacting with content, addressing a fuller range of student learning styles, providing professional tools for student work, and helping students to develop skills in evaluation and communication. What are some of the benefits the students get from technology in the classrooms shown in the clips?
2. Valarie Young and Mary Lynn Smith chose technology to address learning problems that they identified in their classes. Describe a learning problem from one of the classes, and explain how technology was used in the solution to the problem.
3. Technology is best used in a classroom when it has a relative advantage over a non-technology approach. Select a technology in use in one of the classrooms shown in the clips, and discuss the advantage that the technology has over teaching without the technology.

## **Reflection Questions**

1. Any transformation requires certain knowledge, skills, and dispositions (professional values, commitments, and ethics). For example, transforming a health course to include student production of a digital video documenting community health issues would require knowledge of the issues and students' abilities with the technology, skill in coordinating community resources and using the technology to create and produce video, and the disposition that the students are

capable of learning the skills necessary for the project. After watching Valarie Young or Mary Lynn Smith, give examples of the knowledge, skills, and dispositions they needed to transform their teaching.

2. When beginning to use a new technology tool in a classroom, teachers may face barriers that influence the initial implementation of the technology. Effective technology use usually happens in stages. What are some of the barriers Valarie Young or Mary Lynn Smith might have overcome to reach the stage of effectiveness we see in these clips?
3. The clip “Parent Pleased with Son’s Opportunities” features a parent discussing her support of technology in her son’s education. What might be a parent’s reasons for supporting classroom technology? What might be his or her reasons not to support it?
4. The technology that is used in the schools featured in the clips is there because of a vision of what is possible. It took hard work to put the technology in place, and we can see the payoff in the students. What vision do you have for what students may someday be able to do with technology? What steps can a teacher take to realize a technology vision for his or her classroom?

### **National Educational Technology Standards for Students (NETS-S) Question**

1. In the classrooms where tablet computers are used, students are using technology tools for learning. For each of the following clips give an example of how students are meeting NETS-S standard 3: “to enhance learning, increase productivity, and promote creativity.”

### **National Educational Technology Standards for Teachers (NETS-T) and for Students (NETS-S) addressed in the clips:**

- a. “Tablet Computers Facilitate Learning”
- b. “Students Discuss Tablet Use”
- c. “Tablet Computers in Spanish”

Theme 1 DVD Clips: Transforming Teaching and Learning	NETS-T	NETS-S
Technology Improves Teaching Skills	<b>I. TECHNOLOGY OPERATIONS AND CONCEPTS.</b> Teachers: a. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students) b. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.	NA
Student Achievement Increases	<b>III. TEACHING, LEARNING, AND THE CURRICULUM.</b> Teachers: d. manage student learning activities in a technology-enhanced environment.	NA
Technology Manages Flow of Activities	<b>II. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES.</b> Teachers: d. plan for the management of technology resources within the context of learning activities. e. plan strategies to manage student learning in a technology-enhanced environment. <b>III. TEACHING, LEARNING, AND THE CURRICULUM.</b> Teachers: a. facilitate technology-enhanced experiences that address content standards and student technology standards.	NA
Assessment Examples Illustrated	<b>IV. ASSESSMENT AND EVALUATION.</b> Teachers: c. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.	NA
Secondary Students Respond Positively	<b>II. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES.</b> Teachers: c. identify and locate technology resources and evaluate them for accuracy and suitability. <b>V. PRODUCTIVITY AND PROFESSIONAL PRACTICE.</b> Teachers: b. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.	NA
PowerPoint Guides and Prompts Teaching	<b>VI. SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES.</b> Teachers: b. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.	NA
Parent Pleased with Son's Opportunities	NA	NA