Chapter 6
Technology, Digital Media, and Curriculum Integration

Chapter Objectives (slide 1 of 2)
- Define curriculum and explain curriculum standards and learning benchmarks
- Explain technology integration, also called curriculum integration
- Describe the use of computers in computer labs and media centers versus classroom instruction
- Identify ways in which technology can positively influence learning

Chapter Objectives (slide 2 of 2)
- Identify ways to plan for technology integration
- Explain various planning tools and instructional models
- Describe the steps of the ASSURE Model
- Identify ways to get started using technology at a new school
- Describe the use of learning centers

What is Curriculum?
- The knowledge, skills, and performance standards students are expected to acquire in particular grade levels
- Plan or written document

What is Curriculum?
- Set by Country or state agencies
  - U.S. Department of Education
  - Illinois State Board of Education

What is Curriculum?
- Curriculum Standards and Benchmarks
  - Curriculum standard
    - Defines what a student is expected to know at certain stages of education
  - Benchmark
    - Specific, measurable outcome
    - Also called a learning objective

Examples next slide
What is Technology/Curriculum Integration?
- Combining of technology parts, such as hardware and software, together with each subject-related area of curriculum to enhance learning
- Establish connections between subject matter and the real-world
- Curriculum drives technology

What is Technology Integration?
- Classroom Integration versus Computer Labs and Media Centers
  - Computer labs
    - A designated classroom filled with computers
    - Teachers schedule time to use the labs for many purposes
  - Point of instruction
    - Technology in the classroom at the teachers’ and students’ fingertips
    - Teachable moments

The Classroom in Action
- Introduction to Mr. Balado’s classroom
  - Five student computers networked to the school’s local area network and the World Wide Web
  - Instructional computer with access to the Web and connected to an interactive whiteboard
  - Allows Mr. Balado to access vast amounts of information

Integrating Technology into the Curriculum
- Technology can motivate students and increase class attendance
- Technology must be integrated into the curriculum
  - Identify goals
  - Develop innovative ways to teach a diverse population of learners with different learning styles

Technology is a tool that allows a teacher to be a facilitator of learning and creates valuable learning experiences for many different types of learners.
Changing Instructional Strategies

- Teachers are shifting from being the dispenser of knowledge to being the facilitator of learning
- Students can accomplish learning with the teachers’ assistance
- Learning is not just storage of knowledge, but includes problem solving

Barriers to Technology Integration

- Lack of teacher training
- Security constraints
- Lack of administration support
- Limited time for teacher planning
- Placement of computers in remote locations
- Budget constraints
- Lack of high-speed school networks
- Basic resistance to change

Technology Integration and the Learning Process

- Authentic learning
  - Instructional activities that demonstrate real-life connections
  - They associate the concept being taught with a real-life experience or event

- Participatory learning
  - Students become engaged in inquiring, investigating, reflecting, solving problems, and formulating and answering questions

- Anchored instruction
  - Providing a knowledge base on which students can build

- Problem-based instruction
  - Students use the background (anchor) information to solve complex problems

- Discovery learning
  - Inquiry-based method for teaching and learning
Technology Integration and the Learning Process

Numerous technology tools to support many types of instruction and learning

- Example - Primal 3D or A.D.A.M. digital media products
- Allows students to build cognitive scaffold
- Encourages students to think in colors, sounds, and animations

The Web

- Educational equalizer
- Allows children to experience new educational opportunities
- Interaction with others outside of the school

Cooperative learning

- Students work in groups to achieve learning objectives
- Higher-order thinking skills

Strategies for Teaching with Technology

- Best strategy is to put the technology in the hands of trained teachers
- Provide consistent application of technology tools to support instructional curriculum area
- Careful planning

The Role of the School District

- Technology plan
  - Outline of procedure for purchasing and maintaining equipment and software
  - Plans often updated every three to five years
  - Training is a must
- Mentorship program
  - Teaming new teachers with experienced teachers

Planning for Technology Integration in the Classroom

- Decide on most appropriate technology to achieve desired learner outcomes
- Preparing the classroom environment
Planning for Technology Integration in the Classroom

One-Computer Classroom
- Maximize effectiveness of one computer
- Record keeping
- Projection screens
- Interactive whiteboard
- Used to introduce topics before taking students to a computer lab

Two-Computer Classroom
- Develop a strategy to manage both computers
  - Will both computers have the same hardware, software, and network access?
  - Will one or both computers be connected to the Web?
  - Will students rotate through using one or both computers on a daily basis?
  - How much time will each student be allowed on each computer?
  - Is it better to have students work together on projects?
  - How to observe your students using the Internet?
  - How will you evaluate student learning?

More Than Two Computers
- Arrange classroom into learning centers
- Use planning criteria mentioned previously

Using a Computer Lab and the Media Center
- One computer per student
- Hands-on
- Tutorials
- Remediation
- Cooperative learning
- Computer skill instruction
- Digital production projects
- Internet research
- Whole class instruction
- Integrated learning systems (ILS)

Planning Lessons with Technology
- Must consider skill levels of students
- Skill assessment survey
- KWL Charts
  - Instructional planning chart to assist teachers in identifying student understanding of curriculum standards and related objectives
    - What students Know
    - What students Want to know
    - What students will Learn
Instructional Models

- **Instructional Models** are: A systematic guide for planning instruction or a lesson
- **The ASSURE Model**
  - Guide for planning and delivering instruction that integrates technologies and media into the teaching process
  - Details next slide

Getting Started at a New School

- **Technology Training**
  - Does the school offer professional development or in-service training
  - Talk to your principal, curriculum resource teacher, other teachers, or district technology coordinator

Getting Started at a New School

- **Information About Technology**
  - Find out who else in the school uses technology
  - Determine if there is a technology committee
  - Teacher’s manual
  - Determine where to get technology support
Getting Started at a New School

- **Software**
  - Determine what type of software is available
  - Check the classroom to see what is already installed
  - Special education requirements
  - Procedure for obtaining additional software
  - Is a state bid list for technology available?

Other Technologies

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- Check the classroom to see what is already installed
- Special education requirements
- Procedure for obtaining additional software
- Is a state bid list for technology available?

Other Technologies

- Media specialist can provide access to other technologies
- Find a list of materials in use throughout the district

Technology Supplies

- Determine procedure for obtaining additional supplies and parts

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Putting it All Together

- Creating an Integrated Learning Environment
  - Learning centers
  - Breaks classroom into many types of learning environments

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Putting it All Together

Classroom Centers

- Mr. Balado’s classroom
  - Seven learning centers
    - Discovery computer center
    - Web search center
    - Modeling center
    - Great explorers’ library center
    - Scanning and photo center
    - Science center
    - Digital media project center

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