Introduction

Teaching with Technology Across the Curriculum is a book for teachers who wish to use technology as a tool to enhance the teaching–learning process. Its focus is on integrating technology into the P–12 (preschool through Grade 12) curriculum using computers, software, and Web-based instructional materials to analyze, evaluate, and apply the academic content to be delivered.

The book purports two primary themes: Creating Technology-Based Curriculum Instruction for the Classroom and Infusing Technology-Based Academic Content into the Curriculum.
Creating Technology-Based Curriculum Instruction

The first theme of the book presents an approach to creating an integrated lesson stressing the use of technology as a tool to solve real-world problems. Readers need access to the Microsoft suite of word processing, spreadsheets, presentation, and database applications along with Internet access to take full advantage of the examples and illustrations covered in the text. Specifically, the first part of the text addresses the standards and strengths of word processing, spreadsheets, databases, drawing, and the Internet and offers example lesson plan ideas for incorporating these applications into the curriculum of the school.

At the outset, readers are encouraged to think of a unit of instruction appropriate for their classroom; a lesson in which they might actually infuse the primary technologies introduced in the book. The instruction might include the integration of the following:

1. Word processing: Word processing is arguably the most popular technology for the classroom because of its relative ease of use, capacity for creativity and personalization of student work, and its many uses as a tool for promoting student understanding.

2. Spreadsheets: Electronic spreadsheets, with their use of formulas, data manipulation, and “what if” scenarios, are sufficient to promote reasoning and logic, problem solving, and analytical skills in P–12 classroom lessons.

3. Databases: Students who engage in critical thinking find that the logical sequencing, ordering, manipulating, and retrieval features of databases contribute to their development as independent thinkers.

4. Paint and draw: Drawing utilities are popular applications for today’s multimedia computers. With minimal instruction, students learn how to locate their graphics on the Internet and modify those images to create new graphics, charts, icons, and visuals. Integrating these skills into a lesson is particularly appropriate when teaching concrete learners.
A Pedagogical Review of Programming Education Research: What Have We Learned
www.igi-global.com/article/a-pedagogical-review-of-programming-education-research/164972?camid=4v1a