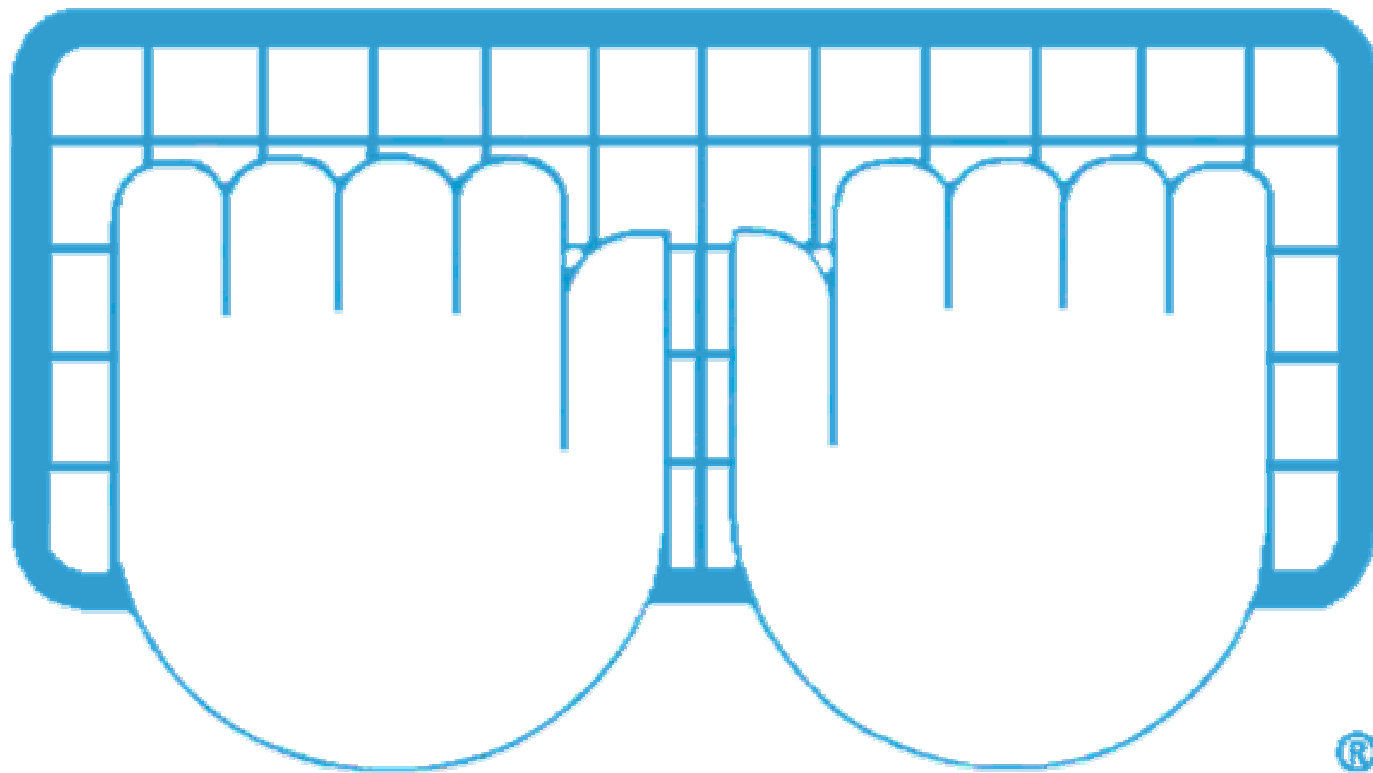


21st Century Schools



Technology and Learning



- A technology driven infrastructure and pathway has been put forth by industry leading computer hardware and software companies.
 - Although there can be debate and healthy skepticism regarding the degree of promotion and self interest that is associated with marketing their own products, technology has changed the feasible choice set and physical definition of a classroom.
- These 11 guidelines summarize their recommendations.

1 - Determine Learning Objectives



This entails:

- Research
- Collaboration
- Critical thinking

- The objective is to analyze, synthesize, and apply information to acquire a 21st century skillset.

2 - Determine Technology Objectives



This entails:

- Demonstrating a conceptual understanding of the concepts and technology.
- Using technology effectively to access, evaluate, process, and synthesize information from a variety of sources.
- Using a variety of software technologies and tools for increasing creative productivity.
- Using technology to identify and solve complex problems in real-world contexts.
- Using communication tools which extend beyond the classroom.

3 - Determine Administrative Objectives



This entails:

- Improving achievement by integrating technology into curriculum.
- Improving administrative computing capacity and efficiency.
- Maximizing technology value and total cost of ownership.
- Aligning instructional and operational use of technology with measurable performance objectives.
- Delivering a comprehensive technology plan that will take advantage of the latest technologies and best practices.

4 - Assess Current Infrastructure



This entails:

- Assessing the existing networking capacity and expandability.
- Evaluating existing hardware capacity.
- Reviewing performance objectives and operational goals.
- Evaluating the use of technology outside of the classroom.
- Evaluating professional development.
- Evaluating technical and instructional support services.

5 - Assess Needs



This entails:

- Utilizing new tools such as tablet PCs, wireless connectivity, projection devices, and wireless access points.
- Utilizing varied learning spaces that encourages collaboration.
- Developing project-based learning that addresses specific learning standards.
- Utilizing formative assessment for immediate feedback.
- Differentiated instruction and adjusting learning activities to address varied learning styles.
- Utilizing the appropriate combination of technology, products, services, support, professional development, and financing solutions.

6 - Engage Professional Services



This entails:

- Meeting and assessing specific operational objectives.
- Providing advice and best practices based on experience with programs.
- Configuring the right hardware to meet curriculum requirements.
- Implementing a program on schedule.
- Remaining responsive, taking immediate action if issues arise.
- Ensuring that a program continues to align with evolving technology goals and both organizational and personalized learning objectives.

7 - Provide Professional Development



This entails:

- Helping teachers integrate technology into an existing curriculum.
- Preparing teachers to instruct students on using technology for learning.
- Providing ongoing help with adopting best practices in the classroom.

8 - Institute a Digital Classroom



This entails:

- Using tablet PCs, wireless projectors, wireless printers, mobile carts, and accessories to implement project-based learning goals.
- Creating a 1:1 computing environment in order that all participants have access to standardized technology.
- Addressing critical thinking and standards-based skills.
- Using databases to analyze, calculate, and report information.
- Using presentations to think non-linearly, learn collaboratively and communicate.
- Using the Internet for research and collaboration.

9 - Tablet Teaching and Learning



This entails:

- Combining traditional handwriting with alternative forms of I/O such as voice.
 - Handwriting can be converted to text without typing.
- Having students take notes, create impromptu presentations, annotate documents or do research online.
- Teachers capturing student's comments, making immediate annotations on slides.
- Teachers and students using the current generation of devices to rotate the screen for presenting to small work groups.
- Making learning more student centered by having the teacher use class-management software to share student work.

10 - Apply Mobile Lab Computing



This entails:

- Creating a 1:1 student-to-computing ratio while freeing up valuable space and minimizing wiring and energy costs.
- Guaranteeing the security and reliability of a conventional wired lab.
- Providing access to online resources.
- Supporting existing infrastructure while achieving a 1:1 computing environment.
- Creating the appropriate combination of notebooks, carts, and connectivity.

11 - Achieve the Benefits of 1:1 Computing



This entails:

- Putting a mobile computing device in the hands of each student and teacher.
- Standardizing on technology which creates an environment where teachers and students can share learning and collaborate.
- Facilitating the computing, collaboration, and communication inside and outside the classroom.
- Providing for the electronic exchange of lesson plans, code snippets, sample programs, and review questions which create a repository for classroom documentation.

Summary



- The feasible choice set in terms of selecting the delivery medium, defining the geographic scope of the audience, and quality of the presentation and support services for information technology training are determined by the technological infrastructure which is in place.