

High School Online Learning

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INTRODUCTION

The question is not whether high school students should be taking online courses. It is whether they should get out of high school without taking one. As students negotiate the 21st century, the skills that students employ in taking an online course are the ones they need to negotiate their productive working lives and 21st century citizenry.

What are the skills that students must master in an online learning environment? Independent thinking, self-motivation, self-directed learning, information seeking, and information giving—these are all elements of online distance learning. Students must not only have basic reading and numeric literacy to negotiate the content of the online courses, but must also be able to persevere and bring to completion a course of study. To further stretch the 21st century student, the work must be completed outside the school walls and school day, on the students' own turf, blending a learning environment and living environment all in one. Perhaps most important, the absence of a teacher's physical presence means that the student must find inspiration from within.

WHY FOCUS ON 21ST CENTURY SKILLS?

Since the introduction of the computer in the early 1980s into classrooms across America, the landscape of the contemporary classroom had begun to change. Seymour Papert, professor at MIT, shared with the K-12 education world a simple basic programming language called "Logo," which allowed students to move an icon forward, back, across the screen through a set of inscrutable commands that here-to-fore had been the province of rocket scientists and those launching spacecraft to the moon.

Papert (1993) in later writings referred to the computer as "the children's machine." He suggested that the computer changed the way students think. Perhaps it

was because the children could make a turtle robot do things by command, or because the computer allowed the interaction and feedback to progress at whatever pace the child desired. One truth was becoming evident: student learning was more active and self-directed, and the computer became a "teacher." Perhaps more importantly, the computer was the teacher under the student's control.

More than a quarter of a century after the introduction of the computer to the classroom, students find themselves immersed in an information-rich school environment, and preparing to take on a world of work in a global marketplace and in a knowledge-based economy (CEO Forum, 2001). The skills students need to be prepared for their future are:

21st Century Skills

Digital Age Literacy:

1. Basic, Scientific, and Technological Literacy
2. Visual and Information Literacy
3. Cultural Literacy and Global Awareness

Inventive Thinking:

4. Adaptability/Managing Complexity
5. Curiosity, Creativity, and Risk Taking
6. Higher Order Thinking and Sound Reasoning

Effective Communication:

7. Teaming, Collaboration, and Interpersonal Skills
8. Personal and Social Responsibility
9. Interactive Communication

High Productivity:

10. Prioritizing, Planning, and Managing for Results
11. Effective Use of Real-World Tools

12. Relevant, High-Quality Products (CEO Forum, 2001, p. 8; EnGauge, 2001; NCREL, 2000)

The Secretary's Commission on Necessary Skills (SCANS) (1999) suggested that several of these skills are essential to the productivity of the workplace. The ability to prioritize and produce high-quality products allows Americans to compete in a global marketplace. The ability to collaborate, the value of teaming, and managing for results leverages American workers' skills in a global arena. Also critical are the global awareness, cultural literacy, and the ability to be adaptable and manage the complex tasks of a 21st century world. These 21st century skills are based in the last decade or more of research on technology in education (NCREL, 2001).

HOW ONLINE LEARNING EMPLOYS 21ST CENTURY SKILLS

What are the elements of online learning that are so integral to a 21st century high school education? Minneapolis Public Schools changes the traditional learning experience for the high school student in an online environment in four ways: a) teachers teach and students learn in an online learning environment; b) content includes rich standards-based online e-texts and the availability of subscription-based resources, including multimedia resources; c) teachers and students use robust communication tools; and d) students face increased opportunities to extend learning and to collaborate with students globally.

THE 21ST CENTURY LEARNING ENVIRONMENT: PROMOTING DIGITAL AGE LITERACY

The Need for Digital Age Literacy

Students who learn online must negotiate the Internet and several computing functions in order to be successful. In Minneapolis Public Schools the online students must know power uses of the computer and Internet, and must know how to be self-directed and independent in their learning pursuits. They must be socially responsible and make appropriate decisions for producing (not

copying) and displaying their work (online portfolio), and communicating to the world (Tech Corps mentors and peer reviewers in global projects).

The vision of what constitutes good teaching and learning must include media literacy as an essential part of the equation (Brunner & Tally, 1999, p. 1). There are three ways technologies can support democratic learning in information-age schools: as tools for student research, as tools for student production, and as tools for public conversations (Brunner & Tally, p. 2). As a research tool, technology can support the values and habits of inquiry-learning. As production tools, new media can support students in shaping meaning out of their experiences, expressing meaning in different forms and languages, reflecting on and assessing the heart of their work, and sharing it with different audiences. As conversational tools, new media can link students in dialogue with peers and adults in and beyond the school, and promote the democratic value of communication and mutual understanding in a diverse society (Brunner & Tally, p. 2). This way of viewing educational work—as cycles of student-directed research, production, and conversation—creates a school culture in which continuous inquiry and reflection are the norm (Brunner & Tally, p. 2).

Brunner and Tally (1999) indicate that there are three criteria that can generally be applied to all media. Questions to be asked include: What's real? What is the message? What is important? (p. 10-12). The learner that continually asks these questions while accessing, processing, and reporting information is exercising media literacy skills. Through media literacy, educators can foster critical understanding that the media are not self-explanatory reflections of external reality, but rather symbolic systems that must be read actively.

Why is media literacy so important in an online environment? Teachers who used to be able to rely on publishers to select appropriate materials must now be aware that their "wired" students are exposed to unedited, raw, sometimes unsolicited information (Healy, 1998; Palazon, 2000). The potential for misinformation is great. As more multimedia and interactive media appear, visual literacy including a deeper understanding of visual representations and how images convey meaning must become a new critical skill. At the very least, learners need the basic skills of visual literacy: distinguish between reality and unreality, appreciate the use of details that contribute to the whole, identify unique properties of the medium used, and understand

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