

How do urban educators teach computer and information literacies?

Rick Voithofer



“Because many types of learning and careers are tied to computer and information literacies,” says Dr. Rick Voithofer, associate professor in the Technologies of Instruction and Media program at The Ohio State University, “students who do not have access to up-to-date computers and software in their homes and schools, as is often the experience of urban students, are truly at an academic disadvantage.” Voithofer set out to learn more about the urban experience in light of information and computer literacies.

Voithofer interviewed 33 participants from the University District near Ohio State, including key educators such as principals, computer literacy teachers, and library media specialists, as well as public librarians, directors from local recreation and community centers, and other members of the community who contribute to the computer experiences of local urban youth. The purpose of these interviews was

to learn how educators in an urban community construct computer and information literacies and how existing curricula, policies, programs, and resources articulate those literacies.

For the purpose of Voithofer’s study, literacies describe the computer skills that are necessary to solve complex problems; the ability to use an Internet-connected digital device, such as a computer, laptop, or PDA, to raise sophisticated questions relevant for one’s age, to search for answers to these questions, to summarize and synthesize the various types of information that is found, and to put that information to use to answer the question most fully. Because the literacies needed go beyond the acquisition of skills like keyboarding or word processing, says Voithofer, resources must be up to date to be effective. More than just learning how to use a computer, students must learn what resources exist that their computer can help them reach and use. Unfortunately, Voithofer adds, this literacy is not being fostered in all of our students.

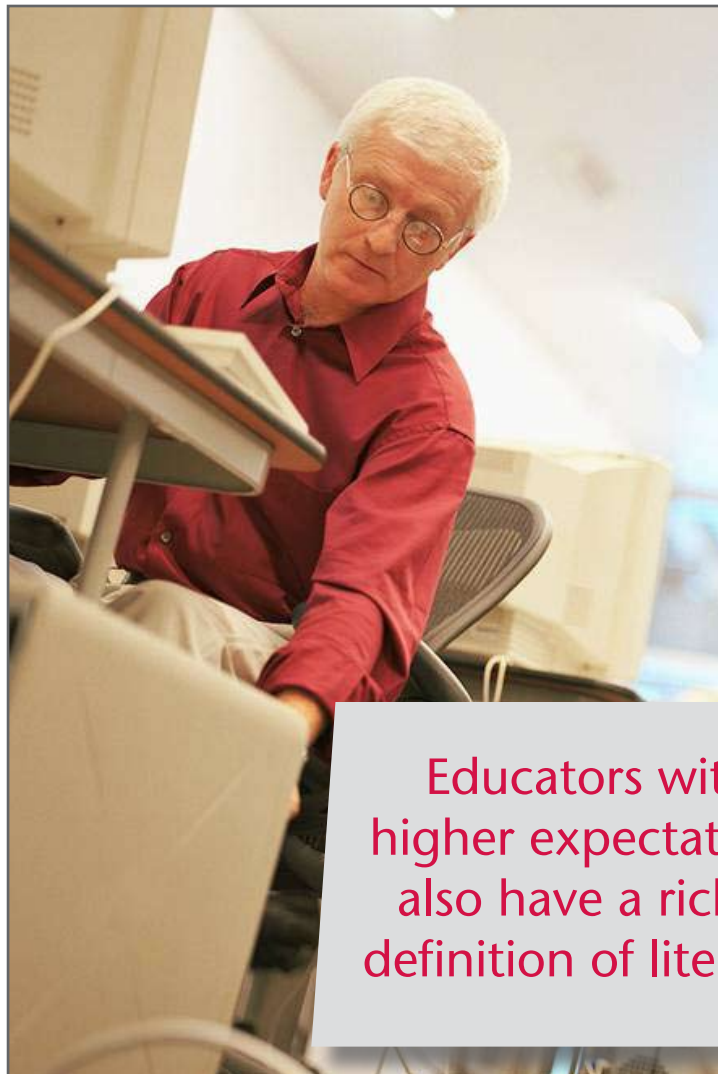
Barriers to Technological Literacies

The primary barriers to developing computer and information literacies in an urban environment that Voithofer discovered through his research include:

- A dominant perception that Microsoft Office proficiency and keyboarding is the foundation of computer literacy
- A narrow conception of information literacy tied to simple Internet searches
- Low student and parent expectations leading to the creation of curricula and pedagogies that do not challenge students or support parents
- Lack of access to computers in school, at home, and in the community (Many participants reported that students use computers only once a week in school.)
- Teachers' lack of training and experience in effective technology integration in the classroom
- A lack of sufficient district-level supports including up-to-date computers, technology integration specialists, and locked-down computer resources

Opportunities for Developing Literacies

Although these barriers exist, primary opportunities were also found in the University District schools:

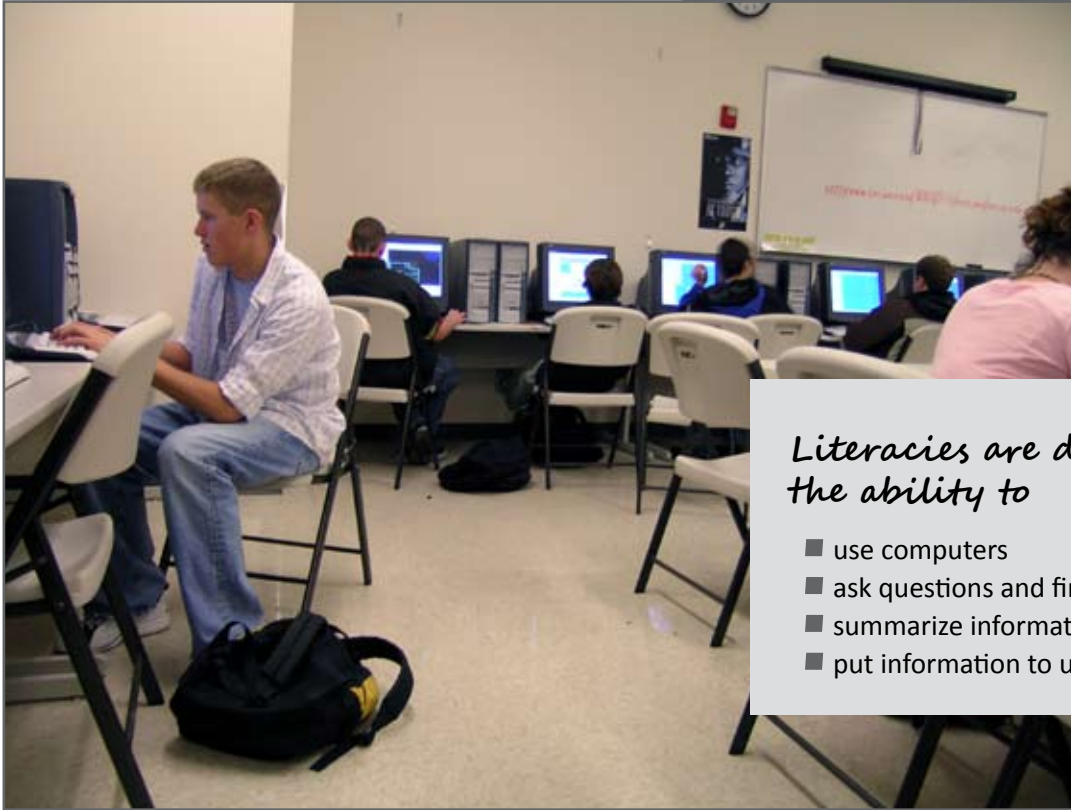


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- Engaged principals supported by programs that provide them with training in integrating technology throughout a school
- Resourceful teachers who are willing to develop their own and students' literacies
- Public and school librarians who foster critical information literacies and articulate library resources with classroom experiences
- Students' passion for popular culture, which can provide an entry into multiple literacies
- High expectations of students leading to support structures that help students meet those expectations
- School, business, and community-based literacy support structures for parents

The Role of Expectations and Motivation

Because student learning is intrinsically linked to educators' understanding of the needs of the students, the educators' conceptions of technological literacy are central to their ability to provide students with the learning experiences that are necessary to cultivate these literacies. Voithofer discovered that not only do educators tend to have different ideas of the definition



Literacies are defined as the ability to

- use computers
- ask questions and find answers
- summarize information
- put information to use

of technological literacy, they also have different expectations for the success of their students. Educators with low expectations expressed literacy as having the skills necessary for entry-level jobs. Educators with higher expectations wanted students to be ready to succeed in college. One principal said, "I want my kids prepared so they don't have to learn it in college."

Voithofer also learned that educators with higher expectations also have a richer definition of literacy. As one principal remarked, computer literacy can help "make their lives easier, make sense of their world, and better their lives." That being said, several participants noted the growing English as a second language (ESL) population, but also noted that they had

no idea how to tailor computer and information literacy to these groups. Some said that ESL students mainstreamed into courses are often lost because of their limited English proficiency. Voithofer found that a factor in educators' enthusiasm for honing computer and information literacy skills in students was their own use of the computer in their personal and professional lives. "Those who used computers more often and in a greater variety of situations tended to be more enthusiastic than those whose literacy was not as high," says Voithofer. Many participants learned the computer as an adult, thus affecting their ability to make the connection between computers and the Internet and language and literacy development.

Regarding students' computer literacy, several high school teachers commented that it was the students' lack of motivation that was a significant barrier to literacy development in school, Voithofer points out. Although students used computers often to do the things they enjoy, such as listening to music, keeping up with their favorite teams or musical artists, and playing games, those experiences do not seem to translate into knowing how to use applications being taught in school, like Microsoft Word, Voithofer states. Teachers had differing responses regarding the effect of using the computer for entertainment purposes on the development of computer literacies.

What Schools Can Do

The schools themselves can unintentionally cause barriers, Voithofer observes. “With an already full curriculum, teachers can find adding technology into their teaching nearly impossible,” he explains. “Sometimes, technological equipment support is not readily available, so computers can be inoperable or software uninstalled or incorrectly installed for a long time,” he continues.

Voithofer says that schools can also be proactive in creating opportunities for students. One example is a principal who supported grant-writing teams in order to obtain technology that the district budget did not allow. Voithofer says, “Committed principals who believe that students should use computers on a regular basis find ways to make that happen. Teachers whose technology skills are limited often work on improving those skills outside of school time and by asking specialists for help.” There are many community organizations (libraries, community centers) available to help with literacy education that are most useful in community schools whose students are from that same geographic area, he adds.

Voithofer was surprised to learn that fostering students who are computer and information literate is more difficult than making sure the resources are there. Principals who want technologically competent students seem to be able to figure out ways to make that technology available, he says. “The problem seems to lie in the fact that schools

continue to focus on computer literacy as a set of skills (how to use Microsoft Word, how to type...) instead of literacy,” says Voithofer. Computers need to be integrated into all classes, rather than “going to computer class.” Literate students will be able to access cultural environments and evaluate web content for its accuracy (the source and its authority) and its visual effectiveness. Sometimes, students are too quick to accept information from the Internet without evaluating its content for accuracy.

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Voithofer says that his research is important for colleges like The Ohio State University because it is evidence of the importance of courses that help preservice teachers learn how to integrate computers into their teaching. Voithofer adds that he dreams of the day when the course he teaches will no longer be necessary because teachers will learn about effective technology integration in their methods and content courses. For now, he hopes that teachers who have taken his technology integration course will think about computer literacy more broadly in terms of how it affects the content of what they are trying to teach. For example, how do blogs impact the way students think about writing? Students must learn that the writing style

acceptable in a blog is different from that required at school. Teachers can also help students learn the different types of primary sources available online to help them in their studies.

“Urban students deserve literacy training that includes broad access to media and information literacies as well as the traditional reading and writing literacies,” states Voithofer. “Universities need to work to prepare teachers to use technology in all disciplines, and schools need to work to find ways to secure the needed equipment. Technological advances are happening at all times, so both teachers’ continuing education and the resources available in schools must be kept current. All students need information and computer literacies to function in and contribute to our technologically advancing world,” he concludes. Voithofer’s work has shown that alignment is needed in schools for these important information and technological literacies to be honed in today’s students. ■

