Tech for Learning

Kathy Schrock's Tech Quest

Which Internet connection is best for my school?

by Kathy Schrock

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● FEATURE: Kathy Schrock's Tech Quest

It's mind-boggling to think how much communication has changed since Alexander Graham Bell's first telephone call 124 years ago. Now, we take for granted the services of cellular phones, faxes, and even the Internet. Yet, believe it or not, many of us still access the Web using Bell's original copper phone lines! After all these years, isn't there a better way to go? In this column, I answer that question: Which Internet connection is best for my school and classroom? To get answers, we'll go on a Tech Quest together. Each letter in "quest" stands for a step we'll take. In addition, each quest is aligned with one of the standards from the International Society for Technology in Education's "ISTE Recommended Foundations in Technology for All Teachers." For more information, visit http://www.iste.org/standards/ncate/found.html If you have a Tech Quest you'd like me to address in a future issue, e-mail me care of *Creative Classroom* at ccmedit@inch.com.

The Quest: The Best Internet Connection

Q **Questioner: Who is going on the quest?** It may be you, an administrator, a parent, or the technology specialist at your school.

U **Understanding: What is the purpose of the quest?** What are my options for connecting to the Internet? Which one is best for me?

E **Explanation: Exploring options for finding an in-depth answer.** When choosing a school's connection, consider these factors: ✔ the number of users who will be on the Internet at one time ✔ the type of information that will be accessed (will it take lots of time to download?) ✔ the reliability of the service 4 the monthly cost of Internet access lines. Then explore the following options:

CONNECTION COMPARISONS

- **Dial-up connection** For this connection -- which is what most computer users have at home -- you'll need a regular phone line, a modem, and an
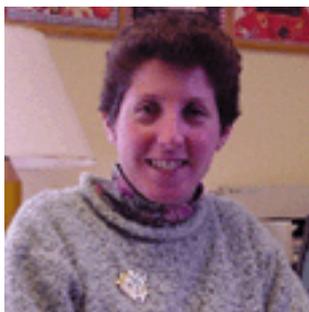
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account with an Internet Service Provider (ISP), such as Earthlink or Microsoft Network. It's fine for one or two users at a time, but it's slow -- the maximum speed is only 56 kilobits per second or 56K bps. (Bits per second, or "bps," measure how much data can travel at once.)

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▶ Web Clipper tutorial

⚙ Options

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- **Integrated Services Digital Network (ISDN)** This is a step up from the dial-up connection. You'll need a special ISDN dial-up line and other hardware such as an ISDN router. The ISDN line has two channels so the bandwidth is increased to 128K bps. (Bandwidth measures how much information can travel over the line at one time. Higher bandwidths transmit more information and download Web pages faster.) You can split up the two channels, using one 64K bps channel for the Internet and the other as a regular telephone line. The downside of ISDN is that lines may be expensive to install, there's usually a per-minute connection charge, and your ISP may charge more for using 128K bps. Also, you must be located within a certain range of your phone company's central office.

- **Digital leased line** These lines come in bandwidths from 56K bps to T-1 (1.54M [million] bps) and higher. A 56K digital leased line can support 20 users at once (as opposed to one or two users on a dial-up 56K connection). These leased lines have a fixed monthly rate and are always "on." Check that you are guaranteed Internet access at

- **Cable** Cable companies provide Internet access via regular, black coaxial cable that you may already use in your school. Speeds are about 1.5M bps, but decrease as more users share this service at the same time. You cannot yet be guaranteed a minimum bandwidth (and that means a minimum transmission speed!), so ask about the minimum you should expect.

- **Satellite and wireless Internet access** These new technologies are probably too expensive for schools.

Sources: Finding out more information The following online resources offer advice about choosing an Internet connection for your school:

- www.wirelesstcp.net/fastest/SRCS.htm Here you'll find approximate prices for setup, service, hardware, and speed of various Internet services.

- http://www.universal-net.com/internet_connections.htm This site describes Internet connections and what to look for in an Internet Service Provider (ISP).

Thoughts: Afterward, reflect on your quest Ask yourself these questions:

- What are my school's Internet needs now and in the future? Will we add more

any time of the day. The digital leased line is usually purchased from your local telephone company, but you must also purchase Internet service from an ISP that corresponds to the size of the line.

- **Digital Subscriber Lines (DSL)** This connection uses regular phone lines to transmit both voice and data. Because copper phone lines already run to your school, DSL is a reasonably priced alternative to digital leased lines. DSL comes in various bandwidths, from 128K bps to close to the speed of T-1 digital leased lines. The price depends on the bandwidth, so think about how many users will be on the Internet at once. A 1.5M bps line can support a few hundred users all using the bandwidth at the same time. Check the features of the version of DSL you're signing up for. Remember, you also have to purchase Internet access that corresponds with your bandwidth. As with ISDN, you need to ask your telephone company if they can service your area.

computers to the network? ✔ Will we use the Internet for distance learning and other bandwidth-intensive applications (such as streaming video, audio, or compressed video such as Vtel)?

Before signing up for any new Internet connection service, ask your ISP these questions: ✔ How many users do you have per modem? (should be 10 or less to avoid busy signals for the dial-up accounts) ✔ What is the connect and set-up charge for the line? ✔ What is the wait time to have the connection installed? ✔ Do you notify users via e-mail of planned "downtime?" ✔ Will you credit our account for "downtime" of your line? ✔ Do you provide 24/7 phone support (24 hours a day, seven days a week)?

MEETING THE STANDARDS

This month's Tech Quest addresses ISTE standard B.3: Use computer-based technologies including telecommunications to access information and enhance personal and professional productivity.