

SREB

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Why Statewide Educational Networks are Important to State and Educational Leaders

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Why Statewide Educational Networks are Important to State and Educational Leaders

Up-to-date and strong networks and telecommunications are now vital for states to be competitive for new business and industry

Statewide educational networks are core elements of states' education and telecommunications infrastructures. These networks significantly influence educational success and contribute to a state's competitive status, economic development and general quality of life.

Electronic communications networks are changing how people live and work in every state. Internet access is prevalent, e-commerce is growing and more government services are accessible online to the public. Networks also are playing an essential role in improving and expanding access to education. For years states have used educational networks, such as educational television and connections among computers, to share information. However, the continued advancement of the Internet and the revolution in telecommunications technology and services have increased the potential for new and improved educational services.

All states clearly consider statewide educational networking a serious, important endeavor and generally recognize networks as necessary and effective. However, there are challenges, including meeting rising needs and expectations, maintaining organizations that work and obtaining resources and staff. To overcome these challenges, educational and governmental leaders need to understand the increasing importance of educational networks and why it is essential to focus right now on their purposes and needs.

What is a statewide educational network?

A network is a way to share information or move it among locations efficiently and effectively. Electronic technologies can transport text, images, video and voice if the network is coordinated, integrated, accessible and compliant with common industry standards. The Internet, state intranets (systems used within specific groups of users), television and wireless technologies are used to meet state network needs.

A “statewide” educational network extends to all areas of the state and provides educational services to a statewide audience (such as all residents, the higher education system, K-12 schools or libraries). All states have more than one statewide educational network.

Considerations in planning statewide educational networks

Educational statewide networks are involved in supporting the core functions of education: instruction, research and service to the community. Thus, key characteristics of education become important criteria for designing and operating statewide educational networks. These characteristics include the following:

- research and innovation, which often require experimentation, including trying new technology;
- open access, which perhaps is illustrated best by the academic library;
- carefully selected and managed standards and control specifications that ensure compatibility yet still allow flexibility; and
- coordinated funding from various sources.

The network’s purpose should be considered in making decisions related to the following areas:

- selection of technology (for example, satellite vs. intranet or proven vs. advanced/new);
- ownership and organization (for example, agency-by-agency vs. consolidated or in-house vs. outsourced);
- staffing (for example, number and skill requirements of personnel);
- standards (for example, security, reliability and interoperability);

- services (for example, training, consulting and help desk); and
- funding methods (for example, central funding vs. user charges).

Statewide educational networks typically receive most of their funding from state appropriations, but other sources include federal grants, contracts, contributions and user charges. Funding for subnetworks (such as campus networks) may come partly from local funds, tuition and fees, and income from auxiliary enterprises (such as bookstores or hospitals). Requirements for network configuration and management often relate to the funding sources. For example, networks funded by user charges generally put a priority on responses to user demands that are funded. Those funded by state appropriations are more likely to concentrate on centrally determined needs.

Network funding should be responsive and linked to education programs and should be an integral part of the state education system.

Statewide educational networks' benefits for state services and economic development

States develop networks that connect government agencies, departments and other state units for the same reasons that education develops them: communication, sharing of resources, lower costs, increased access, productivity and better service. Networks and telecommunication services in general are essential to economic development. States cannot compete for new business and industry unless they have up-to-date, strong networks and telecommunications.

Developing and maintaining an advanced, high-capacity, statewide network can be very costly. Reaching all areas of the state often depends upon the extent to which the telecommunications companies have extended their facilities and services into remote areas. The presence of such services generally is determined by the level of business in an area. Rural, less populated areas may lack the facilities and services necessary to support advanced governmental or educational networking.

States may need to take special approaches, such as initial funding or state/education/business collaboration, to assist the development of advanced networks in rural areas. In these situations, it may be beneficial for the educational and governmental networking to consolidate, at least in terms of physical connections. It is not unusual for education to be the “anchor tenant” in justifying the extension of advanced networking into rural areas.

Statewide educational networks in SREB states

The SREB Educational Technology Cooperative (an organization of over 35 higher education and K-12 agencies) gathers information about statewide educational networks in the SREB states and provides details online (www.sreb.org/programs/EdTech/survey/startpage.asp). These state-by-state data promote the sharing of information among the states and the further development of educational networks.

There are 75 statewide educational networks in the 16 SREB states. Representatives of these networks were asked to respond to a survey about network characteristics, uses, needs and challenges. The survey results revealed that these networks are used for Internet access to resources and services, libraries, sharing of resources, collaboration, communications, on-campus and distance learning, professional development, economic development, and administration. Instruction and research were the primary functions of 65 networks. Six reported administration as the primary function, and four reported educational television as the focus.

About half of the networks are owned and used primarily by individual education agencies; the others are owned and used by multiple education agencies and other state agencies (such as state telecommunications and public television).

The total budget in fiscal year 2003 for the 66 networks that reported budget information is \$461.3 million, broken down as follows:

- intranets \$304.8 million
- educational television \$95.9 million
- virtual libraries \$29.9 million
- satellite \$17.7 million
- interactive video networks \$9.6 million
- specialized educational-application subnetworks \$3.5 million

Funding was listed among the most challenging issues by 31 of the 75 individual networks. Other issues reported were technology planning and upgrades (reported by 16 networks), organization/coordination (12 networks), bandwidth and costs (seven networks), training (six networks), staffing (four networks) and security (three networks).

The survey resulted in several significant findings:

- 1) Each state has several statewide educational networks. Some states have one network for postsecondary education and one for K-12. Also, separate networks and network organizations are based on different technologies (such as Internet, television and wireless). Technology trends, economic considerations and organizational requirements are leading to increased consideration of the potential benefits of consolidating networks.

- 2) Because instruction and research are the primary purposes of most networks, states must address the specific, unique requirements of these educational activities when planning for statewide educational networks.
- 3) Many networks are owned and operated by individual education agencies. Because educational networking is such a large component of overall state telecommunications, these agencies often are called on to address a broader scope than just the needs of their agencies.
- 4) Funding is the biggest challenge for statewide educational networks, which are relatively new items in state budgets and frequently need significant funding for network growth and technology upgrades. Funding likely will continue to be a major issue for several years.

Expected changes in educational networking

Internet2 is an arena for the development, experimentation and support of technologies and services to meet special, advanced needs. Along with government and industry, the research and education communities play a key role in developing the technology and infrastructure for Internet2. The potential effects of Internet2 on educational access, quality and productivity may surpass those of the Internet. Many schools and colleges in SREB states find that using Internet2 technologies and services for special instructional purposes is beneficial. For example, Internet2 offers increased access to specialized resources (such as video), quality assurance and greater security. These services generally are accessed through existing statewide educational networks.

The Internet began as a means of electronic communication among researchers in higher education, government and laboratories. The technology eventually grew into more general use and became what now is known as the Internet. The original users, along with the communications industry, continue developing the technology to improve capacity, speed, security and service. These improvement projects, the organization structure that manages them and the infrastructure to support development and initial implementations collectively are referred to as Internet2.

As a point of regional interest, the Southeastern Universities Research Association (SURA) was a major player in the initial Internet development and has a key role in Internet2.

Amid pressures on state, college and school budgets, networks can be a significant way of sharing resources. They also can facilitate the teamwork necessary for needed improvements and growth in education. For example, an effective network can enable schools and colleges to collaborate on developing courses and to share them online. Collaboration with government and industry also will be increasingly important so that networks will be equipped to handle the expense and complexity of Internet2.

In order to keep up with the growing demands on them, statewide educational networks will need to be expanded and upgraded in the next several years.

State leaders play a role

It is essential for leaders in education and government to agree that statewide educational networks are a vital part of the state's future. These leaders should be involved directly in several areas:

- Leaders need to make statewide networking a priority.
- State and education leaders need to clarify and understand the roles and purposes of statewide networking, including educational networking. Emphasis should be placed on the unique needs of instruction, research and service to the community. Other strong considerations are economic development, telecommunications infrastructure development, government services and the general quality of life.
- State and education leaders need to ensure that planning of statewide networks involves all sectors (education, government, business, other organizations and the public) and is flexible (for example, allows certain sectors some network "ownership" in order to meet their specific interests and needs).

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State-by-state information from the statewide educational network survey can be found at <http://www.sreb.org/programs/EdTech/survey/startpage.asp>.

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