

Great Western Network

Distance Learning Consortium Technology Plan

Last Revision –October 7, 2008

Strategic Vision

In keeping with the mission, beliefs and guiding principles, and goals of the consortium (Appendix 1), our strategic vision for the use of technology within the Great Western Network Consortium is contained in the following vision statement.

Our vision for technology in education in the Great Western Network Consortium focuses on enhancing opportunities for student growth and development of continuous learning skills in a quickly changing world. The role of technology in education is to facilitate changing roles and build new relationships between teachers and learners.

Beliefs and Guiding Principles

Our technology plan is founded on the following beliefs and guiding principles:

All learners (students, teachers, non-teaching employees, parents, and other community members) will need to know how to use technologies to create new ideas and value added products, to explore innovative ways of learning, to develop new ways of managing and organizing information, and to publish and share information with the ultimate aim of increasing the quality of life for themselves and others.

All learners will need to know how to find information electronically.

All learners will need to know how to critically evaluate the information they find.

All learners will need to adjust to new relationships as the use of technological tools creates more opportunities for independent learning and as different models of learning are explored.

Goals and Objectives

Several goals for the use of technology are paramount and need to be considered while planning and implementing our consortium technology plan. Some of the most critical goals appear to be:

- Developing a clear concept of the impact of new technologies on the roles and relationships of the people working with these new tools and developing strategies to minimize any negative impacts. Concepts and strategies will likely need to cover:
 - a. Redefining what teachers do and how they do it.
 - b. Redefining what students do and how they do it.
 - c. Providing support in the form of staff development.
 - d. Providing support in the form of opportunity to influence the changes and the pace of the changes and the redefinition of their roles and relationships.
 - e. Providing opportunity for technology users to express and overcome their fears.
- Developing high quality internal connectivity between all constituents in our consortium. Connectivity may be defined as the facility with which relationships can be developed between two constituents using technology. Internal connectivity in its simplest form would include communication links between members of a local school and a remote site within the realm of the consortium leased fiber optic lines or satellite based services.
- Developing high quality external connectivity between all constituents in our consortium and selected constituents outside our district. This might include relationships between the district and the North Dakota University System, Department of Public Instruction, or any other connectivity that would enhance learning opportunities or facilitate the business of education.
- Developing and implementing high quality education program delivery models. The learning objectives of these models would be designed to address current curriculum learning outcomes with increasing emphasis on

the skill development of learners to use the new tools in a relevant, principled way.

- Developing cost effective communications systems to facilitate the business of education. This includes not only education delivery models for programs, resources, and information but support for the day to day administrative functioning of schools and the district.
- Developing the incredible research and production potential of the new technology tools to enable all learners to explore and handle increasingly complex issues, to share new ideas and creations, to enhance consultative processes to improve personal and group decisions, and to provide 'lifelong' learning opportunities.
- Developing high quality technology support and technology training services for all constituents. This includes staff and student development in the skills necessary to maintain and increasingly complex technological infrastructure.

Scope

Technologies will need to cover both instructional and administrative functions. These include, but are not limited to the items listed below. The scope of the technology plan may be measured by the current project implementation phases shown in Appendix 3.

The philosophy for using available technology entails integrating these tools into an electronic 'toolbox' to serve the business of education. Current available tools include:

Computers and associated hardware, telephones, video, cable, satellite receivers, teleconferencing and video conferencing equipment, fax machines and various technologies that are currently used for the purpose of delivering distance learning courses via audio/video transport systems.

Schools are to draft their own technology plans consistent with the North Dakota Educational Technology Council as well as that of the Great Western Network consortium. Many schools have started the process to develop their plans. Some of these plans include facility changes to retrofit for installation of technology infrastructure and to adapt working areas to take advantage of the technology as a learning / teaching tool.

Standards throughout the consortium are relatively current and consistent with State standards and practices. New technologies will emerge and will need to be evaluated in an ongoing process by members of the Great Western Network Consortium. Implementation of new tools will be an ongoing process consistent with the concept that these plans are in "perpetual draft" to enable the consortium to adjust direction quickly.

Instructional Scope Administrative Scope

Communication skills using technology / Move from paper flow to digital flow

Learning about the technology itself

Research Skills / Web Services

New Learning / Instructional delivery / Internal E-mail messaging

E-mail after hours correspondence / Day to day information processing

Needs Assessment

The Great Western Network consortium is, in relative terms, doing well in the area of technology, especially in the area of distance education technology. Each of the schools/sites are current with the current generation computers and software and most have developed local area networks. Every GWN school has access to h.323 teleconferencing that is compatible with the North Dakota state network.

A recent survey of the status of school infrastructures and hardware inventories revealed that of the 40 schools that make up the consortium, all of them have high speed internet connections.

The survey was part of planning and implementation strategies to launch the consortium's Wide Area Network Project (Appendix 2). It showed technology varies according to school, grade level of school & expertise of personnel within the school. While it is true that all schools/sites may not be able to fully realize their individual technology plans because of either financial hurdles or personnel shortcomings, the implications of the consortium as the lead institution in Intranet/Internet connectivity should bring the "have nots" up to speed within a few short years.

The Great Western Network consortium is currently examining alternative WAN technologies and options for the most cost effective solutions to support our strategic vision. Our present status is outlined below:

1. 1000 mbps (gigabit) circuit is being used by GWN schools through a leased circuit from Midcontinent Cable, Reservation Telephone, SRT

Telephone, and West River Telephone Cooperative. The internet is provided by the state of North Dakota through StageNet.

2. A web site for Great Western Network is located at <http://www.greatwesternnetwork.com>

3. Each school/site has developed their own local area network.

4. We intend to use the IP protocol in order to confine network traffic as much as possible.

5. Another standard that the consortium has agreed upon is the utilization of Category 5 cabling (or better) to allow implementation of Fast Intranet traffic.

Community Input

All learners have a stake in education technology planning. Each school district involved in the Great Western Network consortium have a school administrator, a school board member, a teacher, and a site facilitator who have day to day input in operations in regard to the consortiums activity. Student representation comes in various forms at the district level through the site facilitator. This group of individuals helps to facilitate and monitor the process and the progress toward our strategic vision. Ad hoc working committees are set to complete specific tasks under the lead of the director of the consortium.

The view of the Technology Planning members is that the planning process must be ongoing. As changes are continual and accelerating we must be flexible and able to adjust to the changes. Input and planning must be ongoing, fluid and flexible to quickly adjust to take advantage of changing conditions. The concept of a "perpetual" draft plan available to all interested stakeholders who can undergo continual review, evaluation, and revision as the plan moves toward "completion" is a goal.

Funding

Funding for technology planned changes to the Great Western Network consortium will need to be comprehensive and long-term. We continue looking at doing things differently to provide the resources necessary to sustain changes. Initially, as this transition takes place and new services to the consortium surface, we need to anticipate some potentially higher costs.

The costs for the initial project may be spread over three (3) to five (5) years. Again we need to remember and plan for the fact that currently most technology equipment is considered obsolete in 4 -5 years. Purchases of goods and services will be done in the most cost effective manner possible. This will likely require

some centralized / bulk purchasing and integration of expenditures with other funding priorities (e.g. education change / staff development).

Some sources of funding for the future transition period are listed.

- school district based funding (operating funds)
- special government grants (state/federal)
- corporate donations or industry based grants

Equity among Consortium Schools

Appendix 2 and 3 outline some of the specifics of our project. Clearly a minimal technology base consistent with consortium and State standards and expectations in all schools will be achieved.

There are several factors which influence the time lines as to which schools will be connected to the WAN / Internet. These listed below are not exhaustive. The consortium will need multiple funding strategies, perhaps incorporating technology leap frog strategies to achieve its goals. Network support services, maintenance, and replacement issues will also be a factor particularly when training of all learners in baseline competencies is considered.

current status at each school

availability of funds from the consortium and from the school

commitment to the vision and goals of the project in evidence at schools

equity is not necessarily equality

schools must plan to receive funding (as schools are ready we need to honor their readiness with support and funding)

economics of site completion verses bringing everyone along at the same pace.

readiness of schools to implement significant program and program delivery model changes.

Staff Development

Building a technological infrastructure to reach toward our vision is only a small step. A major task ahead of us is the building of the human infrastructure! Several key bases must be covered not the least is preparing teachers for the role changes which new technologies will bring. A significant way to accomplish this preparation is to involve all the players in the development of their site plans as well as the district plan, particularly with respect to staff development plans.

The consortium director will review and encourage school administrators to review internal staffing priorities. The objective is to free time for a school based technology resource person. This will facilitate in-service and provide a first line contact for solving glitches.

Several strategies being used to facilitate staff development are ongoing.

- Annual Fall Workshop for all Great Western Network staff.
- Specialty training workshops over the ITV system.
- Mentor system with contact person.
- Students as support people for teachers and other students.
- Web pages which support shared information.
- Individual school district in-service for staff (during day, after school)
- Training of trainers model.
- Train teachers to use technology to vary teaching strategies.
- Encourage education partners to offer credit courses.
- Teaching and non-teaching workshops on "software" used.

Services that GWN intends to include in 2007-2010 E-rate Applications

Great Western Network annually prepares an application to the Schools and Libraries Program (USAC) for e-rate discounts for the telecommunications services that bring distance learning to its member schools. For the fiscal years 2007 through 2010, GWN will continue to request e-rate discounts to help buy down the cost of the telecommunications providers service.

Evaluation and Review

Our Consortium Technology Planning Committee role is to set the strategic direction and to facilitate and monitor the process and the progress toward our strategic vision. Specific projects, tasks, targets and goals are sent to ad hoc working groups and individuals. We see the review, evaluation, revision and adjustment of these initiatives as a perpetual process. The real measure of our success will be in the accomplishments of our learners.

Current evaluation and review strategies and some initial criteria to measure our successes are listed.

- Consortium Technology Planning Committee formed to monitor and reflect on the success of the plan.
- Ad hoc working committees / groups are given tasks and report when completed. (see Appendix 3)

- The plan is on the web with an invitation for input, review and feedback.
- Periodic revisions will be updated on the web
- We will be sharing successful programs and projects which encourage students and teachers to use the technology in a significant new way.

Members of the Consortium Technology Planning Committee include:

Brad Webster – Washburn School

Bill Strasser – Consortium Director

Roger Norris – Wilton School

Terry Bentz – Grant County-Elgin School

Sandra Meidinger – Linton School

Appendix 1

Mission Statement

As a consortium of distance learning schools, we challenge, encourage and support all learners to be responsible for developing their abilities with respect for self, others and the environment.

Beliefs & Guiding Principles

We believe that education is a responsibility shared by everyone.

We believe personal success takes many forms and varies for each individual.

We believe that opportunity should be provided for everyone to move towards their potential.

We believe that students should be actively involved in all aspects of their learning.

We believe that education is lifelong, continuous, and takes place in many different ways and places.

We believe in the importance of healthy self-esteem.

We recognize the richness in a variety of cultures and values.

We believe that it is our responsibility to provide accessible, safe, relevant and equitable educational opportunities within the resources available to the consortium.

We believe in co-operation and collaboration and that strength is built through the initiative and contribution of everyone.

We believe that together we explore change as an opportunity.

Goals

Learner Focus (Success and Access)

Continue to provide all learners with opportunities for success and to support the changing educational needs of society.

Wellness

Establish a safe, healthy and secure working and learning environment; one that fosters awareness, confidence and enthusiasm.

Roles and Relationships

Clarify roles and promote effective relationships among all education partners.

Openness and Accountability

Demonstrate an increasing level of openness, trust and shared accountability among all education partners.

Appendix 2

CONSORTIUM TECHNOLOGY PROJECT

Phase 1 - Build a Consortium Wide Network that allows schools to share educational resources through interactive television via leased distance learning fiber optic services, state infrastructures and/or satellite/wireless based transport systems.

This phase will provide rural schools the opportunity to provide classes and coursework to learners that may not otherwise be possible within their local resources. Staff development and training are required to develop a seamless integration of this type of distance learning into the schools. Further connectivity

with other ITV networks in and outside of the State will be approached as finances become available.

Phase 2 - Build a Consortium Wide Area Network / Intranet through existing ITV Fiber Optic Lease agreements.

This phase includes assessing the current state of technology able to support a consortium WAN and plan for the resources needed to bring the sites to a common standard. A sufficient level of staff development / training for users to get started will be given to site users as they are brought on-line. The district standard will enable students and staff at sites to communicate with each other and to other wide area networks in North Dakota outside of the GWN consortium.

Phase 3 – Provide Internet access and opportunities to schools, through existing ITV leased fiber optics services and WAN.

This phase extends the efforts of phase 1 to further provide internet connectivity to each of the consortium ITV schools. Additional training for administrators, teachers and students is required to gain access to the wealth of information available on the World Wide Web.

Appendix 3

Current Status of LAN/Internet Connection

Most sites are currently sharing a 1000 mbps (gigabit) internet connection to the North Dakota shared connection via ITD and StageNet. Those schools who are not connected via fiber have access to a minimum of 1 T1 connection. Teleconferencing capabilities are becoming more and more useful to our member schools.

STAGEnet Upgrade Project (added October 1, 2009)

The State of North Dakota's Information Technology Department along with STAGEnet partners will continue to develop and enhance a statewide network to service its educational facilities. STAGEnet exists to provide a secure, reliable, and cost-effective network that has the scale and flexibility to support the convergence of data, voice, and video to meet and surpass the objectives of education.

The STAGEnet upgrade project will deliver a much needed equipment refresh to the schools and update some of the core network equipment. This upgrade will allow us to significantly increase the bandwidth available to the schools (minimum of 10mb) and have a minimal impact to cost. The initial upgrade for the educational sites should be completed for the 2009-2010 school year.

Technology Budget for Great Western Network

<u>Budget Expenditures</u>	<u>2007-08</u>	<u>2008-09</u>	<u>2009-2010</u>
Contracts with Service Providers	309,616	309,616	322,729
Equipment Purchases	20,000	25,000	27,000
Staff Contracted Salaries & Benefits	373,204	380,500	388,750
Travel	<u>6,000</u>	<u>6,500</u>	<u>6,700</u>
Total	708,820	721,616	745,179

<u>Budget Revenue</u>	<u>2007-08</u>	<u>2008-09</u>	<u>2009-2010</u>
Anticipated E-rate payments	189,769	189,769	204,267
Participating School Annual Fees	182,000	194,796	201,200
Student Tuition Fee Revenue	<u>337,051</u>	<u>337,051</u>	<u>337,051</u>
Total	708,820	721,616	742,518