IMPROVING STUDENT ACHIEVEMENT THROUGH TECHNOLOGY INTEGRATION

SCHOOL DISTRICT OF NEW LONDON INFORMATION LITERACY AND TECHNOLOGY PLAN 2007 – 2010

Approved by the School District of New London Board of Education May, 14, 2007

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EXECUTIVE SUMMARY

The rapid changes in technology and its applications continue to drive education to think differently. Much research supports the need to provide our students with the 21st century skills necessary to succeed in a technology age that has and continues to reshape the world. The globalization of business and the collision of diverse cultures, because of the instant interconnectedness that technology has provided, have caused our district to examine the implications for our students, staff and community. We choose to be architects of our future rather than casualties of a system that is irrelevant in a different world. This plan is a starting point for us to begin our transformation. It is built upon a basic understanding of the way things are today with an eye to the future as it unfolds. This plan does not pretend to know what the future holds but takes a realistic view of trend data to assist in directing our decision-making. Based- on those trends, it is obvious that we need to continue to better integrate the technology standards, to differentiate instruction, and to make the learning experiences for our students engaging and relevant. This plan recognizes that building the capacity of our staff to meet that challenge continues to be a major objective.

Our 2007-2010 Information Literacy and Technology Plan has made a concerted effort to incorporate the Student Success Indicators adopted by the district. We believe that these indicators, supported by strong foundational skills, will provide all students with the tools necessary for their success after they leave our school system.

The plan includes goal statements and specific objectives for each of five focus areas. They are:

1. Instructional and Curricular Goals and Initiatives
2. Communication and Information Access Goals and Initiatives
3. Staff Competency Goals in Support of Student Learning
4. Administrative and Management Goals and Initiatives
5. Forward Thinking Goals and Initiatives

This Library Media and Technology Plan focuses on increasing staff development opportunities to promote the integration of Information and Technology Literacy (ITL) Standards. We also established goals to expand our virtual learning experiences for staff and students, increase awareness and integration of problem-based learning and other research based best practices.

A critical element is the issue of replacing obsolete and worn out technology. Of the nearly 1000 computers in the district, many of our existing computers and other hardware was purchased as part of the building referendum of 1998. Others were purchased prior to that time using TEACH block grants. Since the elimination of TEACH block grants as a source of funding to replace equipment, we have been unable to meet this need. Last year we were able to enter into a lease agreement to replace 220 computers that were using operating systems that could no longer be supported on the district's network and effectively shut it down for a period of time during the 2006-2007 school year. Although it may be hard to believe, we continue to find a use for equipment that is approaching 10 years old. The industry standard for schools is to replace hardware on a five-year cycle. In business and industry the cycle is much more accelerated. It does not serve our students and staff to ask that they push the envelope toward the future by using the technology of the past. In addition, the plan assumes that new technology will need to be purchased to meet the developing demands of students and teachers. Fixed expenses in areas outside the purview of this plan far exceed the minimal increases provided under the weight of revenue caps. This reality has resulted in a continuous erosion of funding allocations dedicated to the completion of previous technology plans. In

order to meet the replacement and future technology needs of the district, a reliable and consistent funding mechanism dedicated to the goals of this plan must be established.

INTRODUCTION

Technology continues to change how we educate students, communicate to parents and other stakeholders, and manage our schools. While it will continue to be an integral part of education, we must remain focused on how it can best improve student achievement. School districts face increasing pressure and challenges in order to adequately prepare students to live, learn, and work in a digital age. The School District of New London (SDNL) is committed to finding ways to leverage technology in order to accomplish this challenge.

The SDNL's previous Technology Plan was prepared by key district personnel and was developed during the 2003 school year. Work on the current plan began in the spring of 2006 with the most significant revisions being accomplished during the first semester of the 2006-07 school year. This document will outline the ways in which technology can assist the District in meeting its objectives, strategies, and defined needs. This plan covers a three-year time frame for the years 2007-2010 and will build on federal, state, and local reforms and strategic plans.

Relevant Research and Best Practices

As part of the initial planning process as well as during the formulation of the Technology Plan, members of the Technology Committee reviewed relevant research and best practices. A significant amount of research related to attempts at measuring the effectiveness of instructional technology in the classroom. As stated in a report from the Metiri Group:

> Researchers find that extracting the full learning return requires much more than the mere introduction of technology with software and web resources aligned with the curriculum. It requires the triangulation of content, sound principles of learning, and high-quality teaching – all of which must be aligned with assessment and accountability.

The National Education Technology Plan (2004) recommends seven steps that school districts should take:

1. Strengthen leadership by developing partnerships between schools, higher education and the community.

2. Consider innovative budgeting by systemic restructuring to realize efficiencies, cost savings and reallocation and creating a technology innovation fund to carry funds over yearly budget cycles.
3. Improve teacher training by giving teachers access to research, examples and innovations and staff development opportunities to learn best practices. One recommendation states, "Ensure that every teacher knows how to use data to personalize instruction. This is marked by the ability to interpret data to understand student progress and challenges, drive daily decisions and design instructional interventions to customize instruction for every student's unique needs."
4. Support E-learning and virtual schools by providing student and teacher access to e-learning.
5. Encourage broadband access that is available all the way to the end-user for data management, online and technology-based assessments, e-learning, and accessing high quality digital content.
6. Move toward digital content by considering the costs and benefits of online content, aligned with rigorous state academic standards, as part of a systemic approach to creating resources for students to customize learning to their individual needs.
7. Integrate data systems from both administrative and instructional systems to understand relationships between decisions, allocation of resources and student achievement. (Paige, 2004)

The School District of New London has made numerous advances in the use of educational technology to improve student achievement, but we can continue to improve and move forward on this continuum if we monitor and utilize current research and best practices. Using high-quality research, our staff continues to adopt new and effective uses of technology that improve the teaching and learning process. See Appendix A for a complete bibliography of sources referenced in this document.

District Information (Library Media) and Technology Vision

Technology will be effectively utilized and embraced by all members of the learning community as a primary tool to enhance opportunities for student success.

District Information (Library Media) and Technology Mission

To fulfill the Educational Technology Vision, the Educational Technology Mission guides the School District of New London…

> In order to increase student opportunities for success, it is the goal of the SDNL to achieve effective technology integration by striving to provide appropriate and equitable access, resources, opportunities for learning, communication tools, and a well-articulated and communicated plan based on quality data collection and analysis.

SCHOOL DISTRICT OF NEW LONDON

OUR MISSION - SUCCESS FOR ALL STUDENTS.

Achieving the mission of the School District of New London is a responsibility shared by students, families, employees of the district, and the community. We will be accountable and work together to. . .

- Provide a safe, secure, nurturing environment.
- Establish and maintain school, family, community partnerships.
- Foster students' developmental assets.
- Ensure that students master the essential curriculum.
- Recruit, develop, and retain a highly qualified staff.
- Model what is expected.
- Value diversity.
- Meet the needs of the future.

Student Success Indicators

Graduates of New London Schools will be…

Effective Communicators:

People who can and do read
People who can write effectively to a variety of audiences and in a variety of contexts
People who can express ideas orally
People who can listen actively and respectfully
People who can decipher and assess information
People who can express ideas mathematically
People who recognize and demonstrate personal creativity
People who perceive and appreciate creativity in self and in others
People that have functional literacy in at least two languages

Problem Solvers and Critical Thinkers:

- People who can identify, assess, integrate and use available resources and information to reason
- People who can make sound decisions
- People who can solve problems in a variety of contexts
- People who can use advanced technologies to create physical, intellectual or practical solutions
- People who are capable of divergent and independent thinking

Self-Directed and Life-Long Learners:

- People who can set priorities and achievable goals
- People who can create positive options for themselves
- People who can monitor and evaluate their progress
- People who can assume personal responsibility
- People who display the skills and confidence to succeed
- People who are capable of taking action to achieve physical, mental and social well-being and personal satisfaction
- People who use core values to create positive visions of their future
- People who strive to reach their own maximum academic potential
- People who take pride in their accomplishments
- People who are prepared for employment or further studies and advanced degrees
- People who value education

Responsible Contributing Citizens:

- People who can share time, energies and talents to improve the quality of life for self and others
- People who respect themselves and others
- People who are informed participants in the democratic process
- People who are aware of local, national, and international issues and cultures
- People who respect and value differences in others
- People who can interact in a responsible manner and understand how those interactions impact others
- People of strong character who act on those convictions
- People who are able to work cooperatively with others
- People who are good stewards of the environment
- People who take pride in their school and community

BACKGROUND INFORMATION

School and Community Demographics

During the 2004 – 2005 school year, the School District of New London was ranked 85th of 442 districts by enrollment. This includes approximately 2500 students from the City of New London and municipalities of Dale, Deer Creek, Greenville, Hortonia, Liberty, Maple Creek in Outagamie County; Bear Creek, Caledonia, Fremont, Lebanon, Mukwa in Waupaca County; and Clayton, Winchester, and Wolf River in Winnebago County. New London is located on the eastern

boundary of Waupaca County and the western boundary of Outagamie County. New London is 45 miles from Green Bay, 20 miles from Appleton and 45 miles from Oshkosh. The district covers 144 square miles in three counties with an approximate population of 19,000.

The district is governed by a Board of Education composed of seven members elected at-large for three-year terms. School Board Members are:

Terry Wegner - President
Marvin Schneider - Vice President
Virginia Schlais - Clerk
James Auer - Treasurer
Kim Schroeder - Director
Jody Coppersmith - Director
John Faucher – Director
Travis Glynn – Student Representative

Buildings in the district include a high school which opened in August, 1999 housing grades 9-12 with an enrollment of 889 students, a remodeled middle school (the former high school which has been remodeled into to a 6-8 middle school) with an enrollment of 616 students, and four elementary schools with a total enrollment of 989 students. Two elementary schools are located in the City of New London: Parkview Elementary serving grades K-5 with 313 students, and Lincoln Elementary serving grades PreK-5 with 301 students. Sugar Bush Elementary, located north of the city, serves grades K-5 with 204 students. Readfield Elementary, located south of the city, serves grades K-5 with 171 students. There are 27 students in the Castle Learning Center, a charter school within the SDNL.

Collaborative Initiatives Utilized or Explored

Public Libraries

The New London Public Library houses eight computers that are fully connected to the SDNL computer network, thus providing access to our resources for students and community members. These computers were purchased with a $50,000 grant and the district has maintained an ongoing commitment to keep these computers updated and fully connected to its' network. The School District of New London also has close ties with the Fox Valley Library Council, a group of university, public school and special libraries in the Fox Valley committed to interlibrary cooperation. Students and staff use Infosoup, the Northeast Wisconsin Public Library catalog and WISCAT, the state materials catalog, to locate and request resources through

interlibrary loan. The New London Public Library/Museum Board includes a includes a representative of the SDNL.

Colleges/Universities

Numerous institutions of higher learning exist within a 50-mile radius of the School District of New London. Fox Valley Technical College, University of Wisconsin Fox Valley Center, the University of Wisconsin Oshkosh, and Lawrence University serve learners of all ages. Numerous connections have already been made with these institutions, and more exploration of possible collaboration will continue to be examined in light of meeting plan goals and objectives. Technology-related, graduate level courses for teachers via St. Mary's University of Minnesota have been offered in the SDNL during the summer and this will continue to be explored.

Businesses/Other Collaborative Efforts

New London is a relatively small town with somewhat limited business collaboration possibilities, but our proximity to the Fox Valley and its wealth and variety of businesses does allow some connections to be utilized and explored. Currently, numerous school-to-work partnerships are in place through the district's co-op and work experience programs, and these partnerships can serve as a springboard for collaboration and assistance in meeting plan goals. The SDNL also works with community organizations such as the Chamber of Commerce, Jaycees, Rotary, and Optimists. Our high school library is open after school four nights a week in order to offer after-hours access to students as well as community members. In addition, we work collaboratively with WISCNET, Skyward, and CESA 6.

Members of the SDNL Technology Committee:

Terry Wegner - School Board Member, Business Community
Bill Fitzpatrick - District Administrator, Parent
Carol Bitar - Director of Curriculum and Instruction
Richard Yerkey - Director of Business Services
Terry Wetzel – High School Assistant Principal/Technology Coordinator, Parent
Wade Berglund - Systems Engineer
Donna Young – Library Media Specialist
Jim Shea - Teacher – Readfield Elementary School
Cherilyn Trzebiatowski – Teacher – Lincoln Elementary School
Jennifer Pelot – Teacher – Sugar Bush Elementary School
Julie Cherf - Teacher – Parkview Elementary School
Todd Koeller - Teacher – High School, Parent
Linda Gregory - Teacher – High School
Joe Pomrening – High School Principal
Kristin Grable – Sugar Bush Elementary School Principal (Summer School Coordinator)

While not a formal member of the Technology Committee, consultations are ongoing with Ann Christopherson, Director of Pupil Services, regarding the use of assistive technology in our school district. In addition, informal student surveys have been used to gather input from this stakeholder group. Our Board of Education has a student representative that attends each meeting and has a seat on the board, participating in all aspects with the exception of personnel issues.

Overview of the Educational Technology Planning Process

The District Technology Committee began work on the new Technology Plan in the summer of 2006. A thorough and formal review of the previous plan was completed by the committee, thus offering a starting point for developing a new plan. Research was analyzed and discussions regarding the continued shift in goals from simple technology acquisition to authentic curriculum integration and increasing student achievement were topics continually emphasized. The need to find a consistent funding mechanism to meet the goals of the plan was also a consistent discussion topic.

The process continued with periodic meetings and continued discussions and revisions. The enGague Survey was given in November 2006 and once the data was compiled additional priorities and goals were formulated. During this time, an inventory/assessment of existing software, hardware, and staffing was completed. With this data at hand, the Technology Committee continued work on the new plan. While formulating the plan, periodic consultations

were made with CESA 6 technology staff, Wisconsin Department of Public Instruction staff, the CESA 6 Technology Coordinator's Network, and SDNL Library/Media Staff.

CURRENT STATUS & NEEDS ASSESSMENT

Analysis of Previous Plan Goals

During the summer of 2006 as part of the initial plan meetings, the Technology Committee looked at the goals and objectives from the previous Technology Plan. Questions that were asked were:

- Was the goal achieved?
- If not, why postponed or not met? Lack of funding, personnel, equipment, or training?
- Is the goal still valuable and should it continue? Should it be modified?

Once every goal and objective was analyzed, decisions were made regarding continuation, modification, or removal of the goal from the new plan.

Analysis of Proficiency

The district administered the enGauge on-line survey during the month of November 2006. Staff members, students, administrators, and board members completed the survey. The Technology Committee has analyzed and discussed the results and has incorporated the findings into this plan. These results have guided how our plans for technology-related professional development are formulated. A summary of the results is in Appendix B.

This is an area that the SDNL can continue to improve – both in systematically gathering evidence of educator proficiency and in translating this data into appropriate professional development. Based upon existing data, two specific areas that will need to be addressed are educator's ability to:

- Design and teach problem-based learning units that incorporate the effective use of information and technology resources.
- Design various assessments (scoring guides, rubrics, checklists, portfolios) to accurately measure student performance and progress.

Analysis of Effective Teaching and Learning Practices

The enGauge survey results indicated that the SDNL is largely in the Adoption/Exploration stage (3.03) relative to effective teaching and learning practices. At this stage, teachers largely develop lessons independently. Educators use technology to support instructional strategies that were in place prior to the arrival of technology. Assessment is still viewed primarily as a summary judgment activity, but new student products and learning modes enabled by technology are beginning to require new modes of assessment. (*from enGauge online report extractions*)

Inventory – Software

Software licenses and inventory counts are generally kept at the District Office where maintaining up-to-date and readily accessible information continues to be a major focus. Every effort is made to insure equitable access to software titles between schools and across grades.

Appendix C lists software that is approved for use in the School District of New London and has been selectively installed on District computers and/or servers. We are in the process of developing a standardized procedure/form for preview and approval of software at the building level. Currently, individual buildings and/or staff work in conjunction with the Director of Curriculum and Instruction, building principal, and Technology Coordinator when requesting non district-level software to insure appropriateness and alignment with curriculum.

Inventory – Hardware

As of this writing, we have over 950-networked computers spread between nine buildings serving nearly 3000 users throughout the School District. Five of our six schools have a "wireless lab" on a cart, each containing 25 laptop computers and two access points. Our sixth school has a stand-alone lab with 28 computers. Each of our six schools also has at least one digital camera and a scanner. Each school has projection systems.

Our Middle School has 3 stand alone labs of 25 computers and 1 scanner each as well as a "wireless lab" on a cart. In addition, the Middle School Library Media Center has 13 computers designated for student use, 3 digital cameras, 18 AlphaSmart keyboards, and two computer projection systems.

Our High School has 4 “pods” of 25 computers located in the Math, English, Foreign Language, and Social Studies area. The Business Education area has two labs of 27 computers, the Drafting/Tech Ed area has 54 computers, the library/media center has 35 computers, and the Guidance Office has 8 computers. Our Charter School (CASTLE), located within the High School, has 18 desktop computers, a wireless lab of 25 computers, 2 digital cameras, and a projection system. The High School also houses the hardware that allows sending or receiving of classes via the KSCADE distance education network through Fox Valley Technical College.

We print to 75 Laser printers and over 100 DeskJet printers across the district. During the summer of 2002 we placed 115 stand-alone computers in numerous classrooms throughout the district. These machines, which had been “pulled” from the network and replaced with new computers, are primarily being used as supplemental word processing/keyboarding stations (these machines are not networked). There are approximately 30 Macintosh computers scattered throughout our elementary schools at this time. The district offers limited support for these machines and they will not be replaced when they become non-functioning. There are a limited number of CD Burners, Zip Drives, Handheld Computers, and Flash Memory Sticks used in specialized areas throughout the district. Number, location, models, and serial numbers are kept at the district office. During the summer of 2006 the district purchased 220 Windows XP computers with CD burners and flat screen monitors to replace old computers. Two smartboards were also recently purchased.

Inventory – Facilities

There are six schools in the School District of New London. Every classroom in the district has at least one networked PC. Three of the four elementary schools have a wireless computer lab on a cart while the fourth elementary school has a stand-alone lab. The middle school has a wireless lab on a cart, 3 stand-alone labs, and a fully wired and equipped Library Media Center. The high school, which was built and opened in 1999, has 4 “pods” of computers, 2 Business Education labs, 1 Tech Ed lab, a fully wired and equipped Library Media Center, and also houses the KSCADE distance education facility and equipment.

All buildings are wired with category 5 cables to the classrooms and computer labs, with most classrooms having at least 2 drops. In addition to the six schools, the Administration Office and

bus garage are wired with sufficient network drops. The New London Public Library houses eight computers and a laser printer that are fully connected to the district network. The Middle School, High School, and one elementary school have the ability to broadcast live or taped video to each classroom.

Inventory – Network and Telecommunications Capacities

The internal wiring of the buildings was completed in the fall of 1999 with the completion of the new high school. The School District of New London data network consists of 4 elementary buildings, 1 middle school, 1 high school, an administrative office, a bus garage, a connection to the public library, and a connection to the New London Police Department.

We are currently using 10 servers to run programs and store files. We have 2 remote servers, one at each of the two outlying elementary schools. Five of the 10 servers are running Novell NetWare 5.1, 2 are running Windows NT, 2 are running Windows 2003, and one running Unix. Fiber optic lines carry data to all city schools. Readfield Elementary utilizes a T1 line and Sugar Bush Elementary has a wireless radio connection to the district office via a tower located on the Middle School.

Internet service is provided via a 7 Megabit per second connection from Wiscnet. Service is filtered in compliance with the Children's Internet Protection Act. Utilized protocols on our network include TCP/IP and IPX. Every classroom in the district is equipped with a phone.

Analysis of Systems Support and Leadership

An additional educational technology initiative has been the continued emphasis on utilizing technology to assist in making sound instructional decisions based on data. This was to be accomplished via an instructional information management system designed to help educators analyze and improve all aspects of their instructional programs and enable the ability to handle accountability requirements. This was being carried out through the use of the IM Series curricular management software. Although this remains our district's goal, the implementation of the IM Series proved to be problematic. There was not a good interface between the district's student data management system and the IM Series, which required significant technology support. The system was developed in Atlanta, and there was not sufficient product support nor was there a significant presence in the state of Wisconsin. Finally, staff used the IM Series as a

scapegoat by expressing frustration with the tool when in fact our school system and staff was not ready to accept accountability necessary for optimizing its capabilities. We are committed to adopting an electronic curriculum management system that is compatible with our student data management system that will allow data to seamlessly interface. We are also committed to providing our staff with the necessary training, time and skill set to make this effort meaningful.

The enGauge survey results indicated that the SDNL is largely in the Adoption/Exploration stage (3.2) relative to overall Systems Support and Leadership. At this stage, the district is intent on developing digital-age proficiencies among learners. The curriculum includes learning activities that address digital-age proficiencies as students achieve academic standards. The district has begun a comprehensive curriculum mapping process in order to show evidence of alignment between the Wisconsin Information and Technology Literacy Standards and local curricula and to measure the percentage of 8th graders deemed "technology literate."

Further analysis of Professional Development as part of Systems Support and Leadership will need to done. While the enGauge survey results specifically rank Professional Development at the Adoption/Exploration stage (3.37), it is the assessment of the Technology Committee that providing comprehensive growth opportunities for teachers, administrators, and other staff in order to build their capacity to advance the vision must become a priority.

Current Educational Technology Staffing

The School District of New London employs the following staff members dedicated to supporting and advancing the Mission of the district through the use of Information Technology.

POSITION	TERM
Technology Coordinator	Additional assignment contract
System Engineer	Full-time
Library Media Specialists	Full-time (3)

Volunteer "webmasters" are in place at all six buildings in the district. These persons manage individual school web sites with assistance from the Technology Coordinator. The Media Specialists (3) play a key role assisting with integrating computers and other technology at each of the schools and often serve as a "go to" person in their respective buildings.

GOALS, OBJECTIVES, AND IMPLEMENTATION ACTION PLAN

Because we are a relatively small district with many overlapping roles/duties, the persons responsible for the Goals and Objectives will generally be:

- District Administrator
- Systems Engineer
- Technology Coordinator
- Director of Curriculum and Instruction
- Director of Business Services
- Building Administrators
- Director of Pupil Services
- Library Media Specialists
- Members of the Technology Committee
- School Board
- Curriculum and Instruction Council

Educator Proficiency

	Goals		**Objectives**
3.1	Provide staff appropriate technology training opportunities on a consistent basis with a wide variety of offerings. Timeline - Ongoing	3.1.1 3.1.2 3.1.3	Conduct EnGauge survey to determine appropriate training offerings. Investigate online and/or non-traditional training possibilities to include staff as students or teachers. Promote opportunities and provide resources for staff to develop non-traditional or web-based learning options (Mini-Grants).
3.2	Develop individualized "Staff Technology Goals" for each staff member. Timeline – 2007/2008 and ongoing	3.2.1 3.2.2 3.2.3 3.2.4	Work with staff members to set goals, access current status consistent with the district Information Technology Literacy standards. Follow-up during the school year with staff to chart goal progress. Include teacher technology competencies in staff goals and evaluations. Provide staff training on technology-based projects based on survey results.

Teaching and Learning Goals and Objectives

	Goals		**Objectives**
1.1	Students will utilize technology as a tool to enhance thinking, learning, and communication skills across the curriculum.	1.1.1	Provide opportunities for staff to share best practice with colleagues and to preview software and related technology materials that enhance the curriculum.
		1.1.2	Investigate increased use of Distance Learning to meet curricular goals and objectives.
		1.1.3	District will explore the utilization of Digital Portfolios to track student use of technology.
		1.1.4	Explore development of on-line learning experiences to meet students' needs.
		1.1.5	Explore ability to expand two-way communication methods such as podcasts, webcasts, webinars, etc.
	Timeline - Ongoing	1.1.6	Encourage problem/project based learning and interdisciplinary experiences.
		1.1.7	Students will access and evaluate a variety of electronic information sources.

1.2	The district will annually conduct a comprehensive review of technology-related course offerings in grades 6 through 12 to assess the relationship of course descriptions to desired standards. Recommendations will be made to the Director of Assessment Curriculum & Instruction for additions, deletions, or changes. Timeline – 2007/2008 school year and annually thereafter.	1.2.1 1.2.2 1.2.3	Provide the Technology Committee with a list of current offerings for review and recommendation. Create a matrix with standards addressed with timelines for completion and recommendations to the Director of Assessment, Curriculum & Instruction Seek input from all stakeholders (students, parents, teachers, administrators, guidance counselors).
1.3	All students in Grade 4 will complete a formal keyboarding program and sequence. Timeline – 2007/2008 and ongoing	1.3.1 1.3.2 1.3.3 1.3.4	Review current procedures in place and standardize delivery methods and timelines across the district. Provide appropriate training and support for fourth grade staff. Assess and address access to equipment to facilitate the successful experience for students. The successful completion of the keyboarding program will be documented through the portfolio process.
1.4	The district will establish a process for identifying, reviewing, and sharing "best practices" related to technology integration. Timeline – Currently and continued ongoing throughout the duration of plan.	1.4.1 1.4.2 1.4.3 1.4.4 1.4.5	A tool(s) will be developed to discuss ways to create and offer opportunities for K-12 staff to share effective technology integration practices. Investigate, select and utilize an electronic Curriculum Management System. Complete a curriculum map of where technology standards are taught and assessed. Establish teacher expectations for the integration of those standards. Establish monitoring mechanisms for the measurement of students achievement of competency in demonstrating mastery of those expected skills.

Information Access/Learning Tools Goals and Objectives

	Goals		**Objectives**
2.1	The district will leverage existing network capabilities to facilitate increased communication and sharing of information between all stakeholders. Timeline – 2007 to 2009 and ongoing	2.1.1 2.1.2	Provide access to communication and information systems beyond the school day and school facility. Explore creation of electronic forums for selected groups.
2.2	The district will increase the amount; consistency, relevancy, and user-friendliness of information on all district and individual school web pages to provide a uniform look, feel, and message. Timeline – 2007/2008 school year	2.2.1 2.2.2 2.2.3 2.2.4 2.2.5	Provide increased training opportunities for school webmasters. Place School Board Agendas and Minutes on district Internet site. Report extracurricular scores/results on a timely basis. Provide information relative to job openings. Purchase licenses for web creation software as required to meet district objectives.

Systems Support and Instructional Leadership Goals and Objectives

	Goals		**Objectives**
4.1	The district will review and provide comprehensive improvements and/or upgrades to existing computer infrastructure. Timeline – 2007/2008 and ongoing	4.1.1 4.1.2	Plan for accounting, payroll and personnel software that supports the Human Resources needs and effectively synthesizes with the districts backbone Explore Wi-Fi access.

4.2	The district will review and provide end-users with the most appropriate and current computer workstations possible. Timeline – Prior to the start of the 2008/2009 school year.	4.2.1 4.2.2 4.2.3 4.2.4	Annually establish minimum district standards for processor speed, hard drive capacity, RAM, etc. Annually review unique needs based on grade levels and/or subject area to inform migration, replacement or acquisition of hardware Develop and annually update a written computer replacement and migration plan, taking into account future needs Develop a funding plan to meet the ongoing and future technology needs of the district.
4.3	The district will implement a standards-based electronic grading system at the Elementary level. Timeline – Prior to the start of the 2008/2009 school year.	4.3.1 4.3.2	Obtain preview software and investigate and evaluate possible software solutions and report findings to the Technology Committee and School Board. Provide appropriate staff training and support.
4.4	The district will conduct the enGauge assessment during the 2006/2007 school year. Timeline – completed and ongoing	4.4.1 4.4.2	Establish timelines and provide training materials for implementation. Continued review of survey results and put forth appropriate recommendations.

Forward Thinking Goals and Objectives

	Goals		**Objectives**
5.1	Promote a culture that encourages innovation and embraces calculated risk-taking. Timeline - ongoing	5.1.1	Provide staff with resources to create innovative learning experiences (Mini-Grants, On-Line Learning opportunities).
5.2	Promote and provide tools that support career exploration and development. Timeline – Prior to the end of the 2007/2008 school year.	5.2.1 5.2.2	Explore the opportunities for partnerships with the NEW North through CESA 6. Have students create a digital portfolio that demonstrates their competence in each of the District's Success Indicators and includes a career component.

5.3	Use technology to assist in providing a feedback monitoring system to provide guidance in responding to the achievement or lack thereof the District's Student Success Indicators. Timeline – annually and ongoing	5.3.1 5.3.2	Annually conduct electronic surveys with graduating seniors and post-graduation alumni. Establish a data monitoring system for assessing student achievement related to the District's Student Success Indicators,

Projected Technology Referendum Summary

Projected Expenditures	IT Plan Goal Objective	2008-09	2009-10	2010-11	2011-12	2012-13	Funding Source
Computer Replacement		168000	47000	168000	170500	170500	
Equipment Components, Backup tapes, Adapters, Cables, Caching Appliance, Peripherals, USB Backup Units, etc.	1.1; 2.1	5000	5000	5000	5000	5000	Fund 10
Replacement Computers	1.1; 4.1; 4.2	160000	39000	160000	160000	160000	Referendum
Network Switches, Routers	4.1				2500	2500	Referendum
Servers	4.1	3000	3000	3000	3000	3000	Referendum
Operation, Maintenance, Upgrade, Communication		176900	180900	183200	140300	142800	
Skyward Bulk Hours	4.3	5000	5000	5000	5000	5000	Fund 10
Maintenance and Support	2.2	5000	5000	5000	5000	5000	Fund 10
Internet Service	2.1	16100	16100	16100	16100	16100	Fund 10 / E-Rate
Access TV/Video Upgrade	4.1						
KSCADE Maintenance Agreement	3.1; 1.1	1200	1200	1200	1200	1200	Fund 10
Skyward Applications	4.1	28000	30000	30000	30000	30000	Fund 10
CMS4Schools - District Website design & maintenance	2.2	1800	1800	1800	1800	1800	Referendum
Lease Payment (2006 $200,000 computer purchase)	4.2	45300	45300	45300			Referendum
System Engineer (salary & benefits)		74500	76500	78800	81200	83700	Fund 10
Innovation - System Upgrades		8000	153000	3000	3000	3000	
Voice over Internet Protocol Phone System	1.1.5; 2.1.1; 4.1		150000				Referendum
New Skyward Applications	4.1						Referendum
Virtual Learning Opportunities	5.1						Fund 10
VHS Inc.	5.1	3000	3000	3000	3000	3000	SEM Grant
Electronic Curriculum	1.4.2;	5000					Referendum

Professional Development		22200	22200	22200	24200	27700	
Skyward User Conferences	3.1	2000	2000	2000	2000	2000	Fund 10
Technician Training	3.1	1000	1000	1000	1000	1000	Fund 10
Information Literacy	3.1; 3.2	1200	1200	1200	1200	1200	Fund 10
Integration of 21st Century Skills	1.1; 3.1	10000	10000	10000	12000	15500	Referendum
Implementing Best Practices	1.4	5000	5000	5000	5000	5000	Referendum
Educational Technology Competencies	3.2	3000	3000	3000	3000	3000	Fund 10
Innovation - Mini Grants		15000	10000	10000	15000	19000	
Technology Innovation Mini-Grants	3.1; 5.1	15000	10000	10000	15000	19000	Referendum
Curriculuim Resources		117200	117300	117300	136400	128900	
Instructional Software (annual fees)	4.3	6000	6000	6000	6000	6000	Referendum
Instructional Resources	1.1; 1.4; 5.1; 5.2; 5.3	90000	90000	90000	109100	101600	Common School Funds / Referendum
Assure Instructional Content	1.2	1700	1700	1700	1700	1700	Fund 10
School Library Resources	2.1	16000	16000	16000	16000	16000	Fund 10
KSCADE Membership Fee	3.1; 1.1	3500	3600	3600	3600	3600	Fund 10
TOTAL EXPENDITURE BUDGET		507300	530400	503700	489400	491900	
TOTAL REVENUE BUDGET		507300	530400	503700	489400	491900	
Fund 10		190100	213200	187700	173400	175900	Fund 10
Federal Entitlements		1200	1200				
e-rate							
Common School Funding (District-Wide Software)		16000	16000	16000	16000	16000	
Referendum		300000	300000	300000	300000	300000	Referendum
Other (grants)							

DISSEMINATION

The School District of New London Information Literacy and Technology Plan will be disseminated to all stakeholders in the community via the following methods:

1. Plan to be shared and approved by the School Board prior to submission to the Department of Public Instruction.
2. Plan will be placed in PDF format on the district website for download by any interested party.
3. Members of the Technology Committee will share the plan with all teachers in their respective buildings.
4. Technology Plan to be shared with the New London Public Library.
5. District Administrative Team to review plan along with implications it has for their buildings and student instruction.
6. Communication of Technology Committee reports/minutes and plan progress to be given at every other school board meeting.

MONITORING AND EVALUATION

The School District of New London Technology Committee will meet periodically to review, monitor, and adjust the plan when it becomes necessary. Other stakeholder groups, such as the School Board, the Administrative Team, the Curriculum and Instruction Council, and the Parent-Advisory Council will also be kept informed regarding plan evaluation toward goal achievement.

In addition to monitoring of goals and objectives, the district will begin looking toward the next technology planning cycle in 2008. At each meeting time will be devoted to refining the vision and reviewing current research about educational technology and it's effect(s) on student achievement.

The information and recommendations gathered from the stakeholder groups will be used as the basis for updating and adjusting the plan. This update will take place on an annual basis with the District Technology Committee and District Technology Coordinator having primary responsibility for this task.

APPENDIX A

Research Bibliography

Center for Applied Research in Educational Technology. The CEO Forum School Technology and Readiness Report: Key Building Blocks for Student Achievement in the 21st Century. Washington, DC 2001

Learning Point Associates. Transforming Learning for the 21st Century: An Economic Imperative. Naperville, IL 2005

Metiri Group. Technology in Schools: What the Research Says. Culver City, CA 2006

Potter, Calvin J., Lohr, Neah J., and Klein, Jim. Information & Technology Literacy: A Collaborative Planning Guide for Library Media and Technology. Madison, WI. DPI, 2002

United States Department of Education. Toward a New Golden Age in American Education. 2004

APPENDIX B

SUMMARY OF RECOMMENDATIONS EXTRACTED FROM ENGAUGE SURVEY RESULTS

FORWARD-THINKING, SHARED VISION

Recommendations:

- In order to achieve a digital-age vision for learners, two things need to be accomplished. All stakeholders in the school community must become aware of the skills and dispositions children might need to be successful as they live, learn, and work in a digital age. Documents describing these conditions (e.g., the SCANS Report) should be disseminated to all participants in the visioning process. Additionally, members of the planning team need access to powerful examples of what these skills look like in practice and how they might be related to a child's academic work. This can be accomplished through visits to model sites (if resources allow) or through presentations, using video if possible.
- One of the dangers in the visioning process is that false assumptions about crucial issues related to students and learning will cause the vision to be flawed. Early in the process, and throughout the process, all stakeholders should be exposed to the research base that underlies the assumptions in the vision. Plenty of information should be provided, in a digestible format, about research related to learning, technology, and digital-age skills.
- An important component of the visioning process is the inclusion of the community as both a contributor and a beneficiary. To ensure this happens, community members should be included on the team responsible for crafting the vision. The district's vision for technology should specifically address the role of and benefits to the community.
- As the school defines the visioning process, it is important that it includes all stakeholders in the community. This can be accomplished through a variety of mechanisms such as Delphi surveys, town meetings, principal/parent, coffees, etc. The stakeholders' participation should be broadly reported to ensure that the vision is known in order to be broadly supported.
- Widespread, ongoing communication about the vision and the school's/district's implementation of that vision is critical to maintaining community, business/industry, and school staff support. A communications committee should be established early in the process. This committee should work with public relations staff at the school to ensure that existing communication and dissemination channels are used effectively. The school's progress with technology should be included in every appropriate media opportunity.

EFFECTIVE TEACHING AND LEARNING PRACTICE

Recommendation:

- Using technology provides teachers the opportunity to better meet the learning needs of individual students. Research suggests that students learn better when they are actively engaged in relevant, meaningful activities that bridge the gap between conceptual and applied learning. Improving learning through technology requires not only technology,

but also requires the right combination of technology, teacher proficiencies, instruction design, and updated curriculum. A school or district can build the capacity of teachers to use technology by providing compelling models of effective uses of technology. Models enable teachers to experience immediate success both for their students and themselves. Until teachers and administrators are immersed in the culture of technology, they will need such models along with advice on the context, content, instructional design, curriculum, and assessment that together shape effective teaching and learning with students.

- As professionals, teachers share a base of common knowledge about teaching and learning practice, While such a base exists for most content areas and teaching specialties, the knowledge base for technology and learning is only now emerging and thus is not extensive. Thus, it will be important for schools to provide teachers with the latest information on how technology can add value to that teacher's work with students. Such information must bridge the gap between research and practice to provide the teacher with practical recommendations that stem from the research.
- As a school begins to redesign and align curricula, instruction, and assessment to the vision, the pioneers lead the charge. But the real impact on learning will be accomplished only when the other 80 percent of the teaching staff are involved. The careful alignment and documentation of impact will be the key to drawing others into this process. They need both the reason for the change and the roadmap to get there. The alignment process can provide both.
- Technology enables the school to engage students in real-world applications of content; often this involves using real data sets to solve real problems. One of the easier ways to engage classes in real-world applications is to join an online forum that has a structure for multiple classes. As teachers become familiar with the online experience, they can then branch out into less structured forums. Eventually some will create their own linkages to both local and global partners who can add insights, expertise and real-world experiences to their students' learning.
- The range-of-use model outlined in *enGauge* could be used as a reference point for analyzing both a school's offerings as well as a student's experience with technology.

EDUCATOR PROFICIENCY

Recommendation:

- To cultivate digital-age skills among students requires that the teacher is thoroughly familiar with those skills and processes. One way to accomplish this is to model the use of these 21st-century skills in the school's professional development programs. Requiring that teachers engage in teaming, collaboration, real-world applications, and production of high-quality, state-of-the-art products would immerse them in the kind of activities their students should experience. This also would be an opportunity for the business community and the teachers and administrators to work together to discuss how these skills play out and get assessed in the workplace.
- Schools that expect teachers to become proficient in planning and designing learning experiences that effectively use technology should provide models, structure, and design sessions. A focus on specific curricular areas could draw teams of teachers, instructional designers, technology specialists, and curriculum specialists into a collaborative design process, resulting in a new, high-quality model. Coupled with ongoing support and team interactions as these designs are implemented, these district/school actions could build teachers' capacities to maximize the positive impact of technology on learning across content areas.

- Implementing technology-supported strategies requires educators to innovate and take risks. Schools would do well to provide teachers with a great deal of support through this process. In many cases the best forms of support are 'teacher coaches' who can team teach with them, model lessons and provide sideline assistance. Another useful strategy is the development of cohorts of teachers who jump into such experiences together-with the school providing formal opportunities for the participants to interact, exchange ideas and share experiences throughout the initial implementation period. To scale these processes, schools should consider video taping excellent models for use by other teachers, supporting teachers from past cohorts to mentor the new cohorts; and online mentoring, debriefing and advice sessions to provide ongoing support for these risk takers.
- As students have become more engaged in the learning process, teachers have found it necessary to use alternative forms of assessment to capture the full extent of the students' performance and progress in acquiring skills and attitudes and meeting standards. Teachers must learn to "recognize what they are seeing," to develop rubrics, and to be able to consistently score students based on those rubrics. They also will be faced with assessing technology-based student products. Again, it will be important that they are introduced to and become proficient with rubrics that capture the multiple dimensions of technology-based products.
- The isolation of the professional educator is rapidly diminishing as more and more educators get online. Teachers need advice and counsel on how to join this virtual, online professional community. Districts and schools should provide teachers with the time, opportunity, and mentors necessary to get them actively engaged in meaningful online professional interactions. Schools can encourage this by providing time and support as well as inservice credit for such activities.
- Few educators have experiences to guide decision-making on the norms, ethics, and legal issues raised by the use of technologies and online learning spaces. School systems would do well to develop board policies, rules, regulations, and norms associated with such use. As technologies are introduced into schools, educators should be convened to discuss translating these policies into practice.

DIGITAL-AGE EQUITY

Recommendation:

- As metrics for judging the impact of technology with students are refined, data should be disaggregated and reported by socioeconomic status; gender; race; special needs; and by building. Strategies should be devised to address inequities.

ROBUST ACCESS ANYWHERE, ANYTIME

Recommendation:

- Technical support issues must be addressed in upfront planning and cost analysis in the design phases. The total cost of ownership must be addressed to ensure that technical assistance is planned, budgeted, and managed effectively through a combination of strategies (e.g., equipment standardization, technical certification programs for students, special compensation packages for information technology personnel, and on-site training programs for entry-level workers.)
- School facilities should support connectivity and intensive technology use for learning. Schools can take action on several fronts to address the issue of facilities. Every district

should investigate and apply for E-rate and other funds available for inside writing and electrical upgrades to accommodate the new technologies. New construction projects should incorporate current and future connectivity and learning space requirements. If no remodeling or replacement is expected, schools can address challenges through, for example, wireless systems to accommodate buildings that are difficult to wire, laptops, or thin clients to be used in learning environments that have limited floor space, or other accommodations.

- Virtual learning opportunities are rapidly becoming available to K-12 students and educators. As they become available, schools should match their offerings with student learning needs. To do so will require increased understanding of what type of learners work best in virtual learning situations—and what skill development is necessary prior to placing students in such situations. Schools should develop a review process for judging the value of virtual learning opportunities in comparison to alternatives and in light of the costs.

SYSTEMS AND LEADERSHIP

Recommendation:

- Schools should identify (or develop) a list of 21st-century skills and goals for technology use that are important to their community. Those skills should be incorporated into the district vision. The district/schools should then conduct a review process to assess whether these skills are being addressed at any level (e.g., included in the written standards, addressed within the curriculum of specific teachers). Once identified, they should investigate how (or if) the skills are being assessed. Schools should create teams to design and implement programs within the content areas that would effectively address the 21st-century skills and the goals for technology use. These teams should be asked to assess the impact of the interventions on learning.
- Districts should assess the current level of funding for technology across all district and building levels, analyzing investment and spending patterns and consolidating and aggregating where possible. In addition, districts should establish funding structures that guarantee long-term, stable funding for technology at both the district and building levels.
- Even the best of teachers—with the best of intentions—will not be effective in using technology if the system creates too many barriers. Systems Thinking and Process Reengineering is about replacing those barriers with a strong support system that encourages and rewards educators for making the changes necessary to use technology effectively. Put yourself in the place of a teacher whose intention is to use technology effectively. Think through the multitude of things necessary to ensure that it works effectively. Process reengineering means changing the rules and culture to encourage, guide, reward, and support teachers to bring effective uses of technology into learning. Start out by focusing on what you are trying to accomplish with technology and then track it back to see why it isn't happening. Often simple approaches, such as polling your teachers or simply listening to your administrators identify barriers or challenges, will help you identify the things that need to change. Sometimes it is something simple, such as not enough outlets in the classroom. Other times it is a bit more complicated, such as hiring a "coach" to support teachers in their day-to-day use of technology.
- The school culture should encourage technology-based innovations provided they are grounded in sound theory, research, and emerging practice. Persons in influential positions within the district should be encouraged to lead, rather than manage, focusing

on capacity building and pushing decision making to building-based personnel. The district should establish a long-term leadership program for teams of administrators and teacher leaders linking their work to existing school improvement efforts. The leadership program should be grounded research and best practices focusing on team approaches to solving school-based challenges through innovative uses of technology. Team assessments should be incorporated into the performance review of individuals.

- Districts should conduct local and global environmental scans to highlight highly successful high-tech partnerships among schools, community, and business and industry. The findings should be analyzed to determine which models have the potential to advance the vision. The district should then grow these models into large-scale programs that reach more participants. Formalizing the processes maintains vibrancy, high levels of participation, and quality results that are valued by all partners.
- Administrators should design a professional growth plan to meet and exceed accepted administrator standards within a given time period. The implementation of those standards should be linked to their job responsibilities. The district should establish a formal support structure among all administrators in support of this work. Indicators of success might include school growth in the Six Essential Conditions in enGauge.
- Districts should provide professional development opportunities that engage teachers and principals in long-term solutions to challenging problems. Professional development plans should be required to link educators' activities directly to curriculum, instruction, and student assessment. The professional development models should specifically address participants' content areas and learning styles. The models should be experimental, enabling cohorts of educators to solve meaningful problems as they grow professionally. Participants should have the latitude to design their own professional growth path, while being held accountable for stated outcomes.
- The district should establish school-based and district-based teams to formally establish the metrics for effective uses of technology at the student, classroom, school, and school system levels. The first step for the teams would be documenting what successful, effective practice looks like at each level, establishing associated measures, benchmarks, and sources of evidence for the three levels. This process should allow for desegregations by various populations to track equity issues and correlation among the three levels to enable leaders to not only report data but also to explain the results through contextual information. The system should be monitored to identify anomalies with the intent of investigating interventions that work.

APPENDIX C

SOFTWARE INVENTORY

Accounting	Impact
	Monarch
	Crystal Reports
	Time Star
Student Records	Skyward
Scheduling	
Attendance	
Report Cards	
Vaccinations	
Grading	
	Educator Access/Family Access
E-mail	GroupWise
Home E-mail	GroupWise Web access
Application Software	Microsoft Office 97 Professional
	Microsoft Office 2000 Professional
	Microsoft Office XP Professional
Web Design	Front Page 2000
	Front Page 2002
	Front Page 2003
Web Browsing	Internet Explorer 6.0
Library Software	Winnnebago Spectrum
	Career Visions
	SIRS Government Reporter & Discoverer
	Grolier Online
	Badgerlink
	NewCat
Web Learning	Plato
Keyboarding	UltraKey
Virus Scanning	MacAfee
Discipline	Skyward
Operating Systems	Windows 98
	Windows 2000
	Windows XP
	Windows NT
	Windows Server 2003
	Novell NetWare
	Unix
Testing/Assessment	Scantron
Security Software	Deep Freeze
Back-up Software	Syncsort Backup Express
Drafting – Publishing Software	AutoCad 2007 Suite
Food Service	Wordware
Transportation Software	Lynx
Elementary Software	Kid Pix
	Kid Phonics

	Math Blasters
	Kidspiration

APPENDIX F

DISTRICT POLICIES