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ABSTRACT

This Technology & Innovations in Education (ITE) publication is a description of how a strategic technology planning process unfolded in four small, rural South Dakota school districts -- Britton, Isabel, Langford, and Sioux Valley. Goals 2000 grants were allocated for each district to develop a technology-based school improvement plan, including both school and community members on the planning teams. This publication includes the following five sections: (1) Introduction and Background -- Purpose and Parameters of the Technology Planning Grants, Overview of Planning Process, and Lessons Learned; (2) The Story of Each Site -- Demographics and Description; (3) Appendix A: Online Technology Planning Resources -- six URL's and brief descriptions of the services provided; (4) Appendix B: Examples of Planning Tools -- Learning Environments: What's Changing?, "You are here!," Important Expectations, and Surveys; and (5) Appendix C: Technology Plans -- plans for each district, as well as the Technology Assessment for Sioux Valley. (DLS)

technology planning case studies

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Technology and
Innovations
in Education
1925 Plaza Blvd
Rapid City, SD 57702

605-394-1876

http://www.tie.net

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Introduction Background

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Introduction

Technology planning is a process to help schools change in a manageable and productive way. In order to maximize the power of technology in improving teaching and learning, schools must develop the capacity to plan wisely.

As we facilitated the technology planning process in South Dakota school districts, the following conclusions about change strategies in general were borne out by our experiences. We share them here at the beginning as a fitting context for the description of the process that follows:

Research-based recommendations about change strategies:
- Change is about people, not just policies.
- Change requires a balance of top-down and bottom-up processes.
- Change requires altering the culture and structure of schools.
- Effective approaches to change combine and balance contradictory factors (e.g., simplicity and complexity, looseness and tightness, strong leadership and participation).
- Change is a long-term, continuous process.

Research-based features of an effective change process:
- Shared decision-making and consensus building among staff, parents, students, and community is necessary.
- Instructional and curriculum reform which emphasize desired student outcomes is needed.
- A belief in the efficacy of all students and adults is critically important.
- The extensive involvement of staff, parents, students, and community members produces greater support from and a closer bond with the community.

Source: *The Process of Change* (From *Initiatives for Systemic Change* by Ray Williams; Journal of Staff Development, Spring 1993)

As we three technology planning facilitators have met and discussed our experiences over the past fourteen months, we have found that we definitely concur with the recommendations above. We believed they were true before we facilitated the process, but now we *know* they are true! We would recommend using this list as "guiding principles" as districts embark on a technology planning process.

What follows is a description of how a strategic technology planning process unfolded in four small, rural South Dakota school districts. Goals 2000 grants were allocated for each district to develop a technology-based school improvement plan. The grant specified that planning teams include both school and community members. We facilitators worked in six districts and found that while each district and its planning process was unique, there were many common factors that contributed to a site's successful planning. Our notes, interviews, surveys, and reflections are the source of these case studies. The resulting strategic plans are in the Appendix.

Background

Purpose and Parameters of the Grants

In July of 1996, South Dakota determined its first year Goals 2000 monies should go to small, rural school districts in the state, a frequently struggling segment of the state's schools. "Small" was defined as those districts having an ADM of 700 or less. The Department of Education and Cultural Affairs (DECA) sent an RFP with the following stated purpose: "To provide resources for small South Dakota schools to support local school district efforts in the planning, development, and implementation of a long-range Technology-Based School Improvement Plan that will improve teaching and learning, integrate technology and telecommunications applications, and result in increased student achievement."

Each grant was $40,000.00, and was expected to be used for the following purposes:

1. Conduct comprehensive district-wide technology inventories

2. Involve the local community and educators in the development of a 3-5 year comprehensive technology-based school improvement plan to serve as a roadmap regarding local technological and telecommunications use and acquisitions. The plan must address:

    •Long-range plans for the utilization, configuration, and acquisition of technology and telecommunications resources;

    •Long-range plans for improvements in curriculum and instruction that will focus on the attainment of state content standards;

    •Long-range plans for professional development and capacity building.

DECA does not have educational technologists on staff, but partners with TIE, Technology and Innovations in Education, to provide that expertise. TIE, a statewide non-profit organization, provides technology leadership and staff development throughout the state. As part of the grant application process, districts were required to commit to use TIE services for support in the following areas:

•Completing a district-wide technology inventory

•Developing a 3-5 year Technology-Based School Improvement Plan

•Participating in professional development activities addressing critical issues such as organizational development, implementing content standards, identifying strategies to improve teaching and learning, using and integrating technology and telecommunications, applications, and assessment

•Initiating acquisition and implementation of tools and/or applications identified by the local school improvement plan, and

•Conducting follow-up activities to maximize the potential and impact of the local planning effort

Six school districts were awarded the grants in late summer, and superintendents and representatives from each district were invited to attend a meeting where representatives from DECA reviewed the purpose and structure of the grant. Even though the grant activities were designed to produce a planning document, DECA leaders emphasized the importance of a meaningful planning *process*. Thus, grant recipients were expected to direct half of the funds toward capacity building via TIE's involvement, and not more than 25% of the funds for hardware and software. While committed and well-intentioned, the interactions of the following weeks demonstrated that several grant sites were confused or uncertain about the strong emphasis on *process*.

Historically many small South Dakota districts have expended little money for planning activities. Rather than viewing planning as a systemic process involving ongoing input, several of the grant recipients expected a brief planning activity of a meeting or two that would lead to purchases and implementation in coming weeks and months. Given that perspective, DECA and TIE initiated more dialogue and interactions with the recipients to help clarify and emphasize the vital role of "process" in this particular grant effort.

Further clarification came in late October with a letter to the districts from DECA. Budgets were divided into the following categories:

Local Site Expenditures
- •Hardware, Software, and Technical Infrastructure
- •Collaborative Team Meetings , Locally-Provided Staff Development, Stipends, Substitutes, Travel Expenses

TIE Services
- •Inventory/Strategic Planning
- •Staff Development/Services

DECA reemphasized the purpose of the grants with the following paragraph:

> The Goals 2000 Planning Grants are perceived as a vital stepping stone for the sites. DECA leaders believe that by engaging in the technology-based school improvement planning process, sites will build their capacity and focus their energies to improve teaching and learning for years to come. With a strong strategic plan in place, the Goals 2000 Planning Grant sites will be positioned to competitively pursue other resources or opportunities that may become available.

Overview of Our Planning Process

In order that all sites have common information about what the process would include, the following explanation of the four components of the process appeared in a memo to the sites from TIE:

- **Information Gathering**

This component involves the gathering of data about current educational technology infrastructure, capacity, and efforts surrounding the teaching and learning process. TIE staff members are working with site leaders and the site's collaborative committee to compile data that provides a valid snapshot of the district's efforts to access and integrate technology as a vital part of the teaching and learning process. The information-gathering activity is an interactive, collaborative process whereby TIE staff members engage with district personnel to gain an accurate and informative picture of the district's current status.

As part of this component, TIE staff members will review the data and offer impressions to clarify the current efforts. With input from the district, the impressions are shaped into a list of "possibilities and/or needs" that emerge from the information gathering activity. The list developed through the information gathering step should not be viewed as an end in itself, but rather a base line that can be revisited and updated as the inventory/strategic planning process continues.

- **Vision Development and Description**

The second component of the process addresses building a vision of technology implementation and integration to impact the teaching and learning process of the district in the next 3-5 years. TIE staff members will interact with the district's collaborative team to form a vision that describes the teaching and learning activities that will be happening in the district in coming years. The vision should speak to teacher and student roles, characteristics of teaching and learning activities, and infrastructure that needs to be in place.

The vision developed as part of the Goals 2000 planning process should be an extension or operationalization of the district's overall vision. If the district has not established a vision via other school reform efforts, or needs to update its vision, this is the right time to pursue such a process.

Typically, a vision reaches out a decade or more. For the purposes of the Goals 2000 planning grant, it is advisable to look down the road three to five years. Given the dynamics of rapidly changing times, that is still a challenge and requires the thoughtful consideration of the collaborative team. The more descriptive the vision, the easier it will be to develop and write action steps later in the planning process.

It is important that the district "own" the vision. While TIE staff members will work to stimulate the thinking of the collaborative team, it is critical that the team members contribute actively to the vision development process. They need to be comfortable and committed, and hopefully enthused about the possibilities offered by the vision.

While the vision does not need to be lengthy, it should include enough narrative to present a meaningful picture of teaching and learning proposed for the district.

- **Discrepancy Analysis (also called Gap Analysis)**

The third component is structured to identify the gaps between the district's current status as established from the information gathering process, and the vision developed as an outcome of the second component of the process. The discrepancy analysis should be a fairly straightforward activity where the local leaders and collaborative team, with the help of TIE staff members, honestly and openly note the gaps between "where the district is" and "where the district wants to be."

Sorting out priorities should be an integral part of the discrepancy analysis. District players and TIE staff members may wish to revisit some aspect of the information gathering effort; maybe seeking more indepth information or pursuing data that wasn't noted in the earlier information gathering activity. Perhaps the discrepancy analysis will cause the district to revisit their vision in an effort to gain more clarity or expand their view. The outcome of the discrepancy analysis should be a concise summary of the gaps that emerge as a result of the group's dialogue and deliberation.

- **Action Plan Development**

In the final component of the process, the local leaders, collaborative team, and TIE staff members identify objectives and action steps that address each of the gaps noted through the discrepancy analysis process. The objectives and action steps comprise the "meat and potatoes" of the technology-based school improvement plan. First, the group must set priorities among the potential objectives. They need to confront questions such as: Which objectives are most critical to the overall effort? What level of resources can be garnered in the next few years to address these objectives?

Once the objectives are prioritized and clarified, the group begins the process of identifying action steps for accomplishing the objectives. The action steps will indicate what is to be done, what resources are needed, who is to do it, what the time line is, and how the district will know the step was accomplished. The answers to these questions might be organized in a matrix that forms the structure for the strategic plan. For example:

Objective	Action Step	Resources	Who	Time Line	Evidence

In order to keep the plan manageable, the group should probably focus on a few key objectives (probably not more than 10), and identify several action steps (typically 3-5) for each objective.

Once the action steps are written, the group should review the overall plan to confirm that collectively, the objectives respond succinctly and effectively to the gaps noted from the discrepancy analysis.

- **Related Information**

While the components of the inventory/strategic planning process are sequential in that they lead to a plan, they are also cyclic and concurrent. That is, most collaborative team activities will involve some discussion of current efforts in the district, some consideration about building the district's vision, and some dialogue about gaps in the district's efforts. TIE staff members will work with local leaders and the collaborative team to ensure that the overall process attends to all components and produces a meaningful plan that can serve the district in the next few years.

Given the nature of the inventory/strategic planning process, it can function as a strong capacity-building experience for district personnel. Each component of the process can potentially stretch the thinking of the local team, build their knowledge base, and engage them in collaborative decision-making. The skills and experience the team acquires can serve the district well in coming years as they revisit, reconsider, and update the plan in response to new data, priorities, and resources.

The inventory/strategic planning effort is more about "process" than it is about "product." While producing a plan is important and useful, it is the capacity-building experience gained by district personnel that positions the district powerfully for continued progress with improving teaching and learning.

Lessons Learned

We three outside facilitators helped guide the technology planning process at very different school districts. After extensive discussion and comparisons, we agree on four attributes for successful planning that cut across the differences and have meaning and application no matter where the planning takes place. They correlate closely to the research-based recommendations about change strategies in general cited in the introduction.

We found that the most progress occurred when...

1. districts were positioned and ready for change. Sample indicators:

•Teacher evaluation processes value professional growth and risk-taking.
•Stated recognition that technology planning is one part of an overall change process, and that it is continuous and cyclical.
•Administrators are driving and encouraging improvements system-wide.

2. districts had a culture where student achievement was the highest priority and technology was seen as integral to student achievement. Sample indicators:

•A thoughtful approach is evident in the advancement of students through the levels of school. For example, culminating projects or exhibitions are used in determining student success.
•School scheduling decisions are based on student needs more than on external forces and traditional structure.
•Existing computers and peripherals are placed in student-accessible work areas and are used by students as they are needed, including before and after school.
•Technology is used to enhance and support broader instructional goals.
•Curriculum development is an on-going process that is responsive to current and future student needs.

3. districts used outside expertise. At least two different kinds of expertise need to be recruited on a volunteer or consultant basis:

•*Process* facilitators focus on helping the committee function in an efficient manner. When they are external to the system, they can ask tough questions that need to be asked when change is considered. They can help expose hidden agendas, help resolve old battles, and build team strength. This kind of facilitator can also suggest "just-in-time experts" as they foresee technical issues on the horizon.

•*Technical* consultants help build the knowledge-base of the planning committee so they can "dream big" during the visioning process. This knowledge base also helps committees make informed decisions, avoid costly mistakes, and best-utilize existing infrastructure.

4. administrators and key stake-holders were actively involved in the planning process, and the administration empowered the planning team.

•By key stakeholders, we would include school board members, teachers, students, business and industry representatives, and parents.
•Identify and actively involve key stakeholders from the very beginning and provide for continued evaluation and review as the plan is implemented. The planning committee is never "done"!
•The planning process must be viewed and conducted as a continuous process; not defined as an event.

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The Story of Each Site

Demographics & Description of the Process

- *Britton - Administrative Leadership*
- *Isabel - Frontier Community*
- *Langford - Motivated Core of Teachers*
- *Sioux Valley - Ready for Change*

The Story of Each Site

Early in the process, three TIE staff members were assigned to be team leaders at two sites each. Two additional TIE staff members were assigned to support the leader at each site. These sites were determined by their proximity to each other to facilitate travel. As the work unfolded over the school year, these team leaders met to share ideas and to compare successes and challenges. It quickly became apparent that the work at each site took on an individual character. What follows is a description of the planning process at four of the six sites. Each section includes demographics of the school district, a description of some of the unique aspects of the planning process and tools used at each site, and reflections of the TIE facilitator.

Britton: Administrative Leadership

Demographics (from the grant application)

The Britton School District is a K-12 district with an ADM of 498 students for the 1995-1996 school year. There are two facilities in the district and both are located in the city of Britton. The elementary was constructed in the early 1960s and is used for K-6 instruction and related services. The high school building was constructed in 1969 and is used for 7-12 instruction.

Britton Elementary had a 1995-1996 enrollment of 267 students. There are two sections of all classes as well as related services. The Britton Elementary has a FTE of 18.4, three certified aides and two non-certified aides. The population make-up of the Britton Elementary would be very similar to many rural South Dakota communities. The majority of students are Caucasian with northern European ancestry. The number of students who are from a non-traditional background is increasing every year.

Britton High School (7-12) had a 1995-1996 enrollment of 231 students. There are 16.5 certified teachers in the 7-12 facility and one non-certified aide. The high school has been accredited by NCA since 1927. The high school has a tradition of academic excellence. The vast majority of students graduating from Britton High School go on to some form of post-secondary training. The student body is proud of their 95% to 96% student attendance and their 95% to 100% graduation rate.

Britton School District 45-1 is a rural district in northeastern South Dakota. The district includes the communities of Britton, Lake City, Kidder, and Amherst, as well as 444 square miles of rural area. Britton is the county seat in Marshall County and serves as a trade center for part of northeastern South Dakota.

Britton is a unique small town in that it has a very thriving industrial park. There are three large employers in the Britton community. Horton Industries is a very successful high-tech fan clutch plant. It employs 200 plus. Sheldahl is an electronic plant that produces electronic circuitry for major businesses (Delcom, IBM, Boeing, etc.). It employs 125 plus. Truss Pros is one of the largest truss/rafter companies in eastern South Dakota and employs 75 plus. In addition to the industrial park, Britton has a very successful hospital/clinic, nursing home and business district. All of these businesses look to the school for leadership and training in the area of technology.

Reflections on the Planning Process at Britton by Marlene Rothermel

First impressions of the Britton community are somewhat not expected for a town that can boast the only stop sign along Highway 10 in remote Northeastern South Dakota. The town is something of a modern oasis amid the traditional rural agricultural setting. Various large corporations flank the town, and a busy atmosphere pervades along Main Street and throughout the community. When our team entered the school to meet the staff and community members, and to present the grant requirements and set the stage for the work ahead, our first impression was of professionalism within a very warm and welcome family atmosphere. This impression was repeated each time I had the good fortune to visit the school - and as my relationship with the staff grew over the year - I always thought that if I ever decided to return to the classroom I could not find a better school to join.

The Britton Technology Plan accurately reflects the vision, beliefs, and culture that drive this progressive community and school. Despite rural isolation and the challenges of inadequate school funding, this community has established an infrastructure, both technical and human, that is indeed a showcase for other South Dakota schools and communities. As I worked with the planning leadership and the staff I recognized the following components that I believe make the difference between successful implementation and implementation that is fraught with challenge:

•The school climate and culture reflected a clear priority for meeting the needs of students. Every conversation that was held was centered on the question: "What does this mean for our students?" When I conducted staff development, the staff asked that I hold companion sessions for the students, and community members were invited as well. Staff members were not only interested in technology-related applications, but were also eager to incorporate new practices to improve student achievement.

•The various groups within the school (grade level, discipline, support staff, administration, technology coordinators) had established an efficient, and primarily informal, networking structure for decision-making. During interviews and assessments throughout the project, it was evident that all stakeholders felt that they had opportunities within the structure of the school to be heard and were part of decisions at a level that was comfortable and acceptable for them. This networking was based on mutual respect for the expertise of the various leaders within the school. When formal planning groups were necessary, the networking provided consistent information flow and input for those not directly involved.

•A positive attitude and excitement about the possibilities that technology could and would afford students and staff was pervasive. From the very beginning of Britton's technology acquisition (see John Thompson's history in the Action Plan) the focus has been integration and application that enhances curriculum and administrative tasks. The staff and administration work to keep informed of impending changes and advancements in technology, but also pay attention to making the best use of existing infrastructure.

•The students at Britton clearly articulated their needs for successful entry into continued education or the work force, and believed that their school district was working to meet their needs. They shared success stories concerning older siblings who had been ahead of their peers in regard to technology skills and application at the University level. Perhaps more importantly, they expressed gratitude for the effort and caring that their teachers and community demonstrate and more than one student expressed a desire to return to the Britton community to begin a business (after completion of college).

•Key to the success of the district were district administrators (Superintendent Don Kirkegaard and Principal Marcia Forester) who were involved and respected members of the community and highly respected educational leaders within the school and the state. Walking down the hallways with them was an education in how you honor staff and students. The resulting honor and respect that was returned to them was similarly evident. These administrators were also ever-vigilant for grant and pilot opportunities that would enhance their programs and curriculum goals. Superintendent Kirkegaard is fondly referred to as "General Grant" for his grant acquisition expertise. Complementing these administrators were technology coordinators John Thompson, Lori Rabenberg, and Lisa Thomas (who has now left the district). These individuals had provided leadership and expertise to establish a robust technology program with limited resources. They shared in the respect and collaboration that is evident throughout the district.

The challenges that rural communities face to meet the needs of their students in a global economy are many, as are the benefits, expressed best by Harmon and Seal in the October, 1995, Kappan:

> "Schools in isolated rural areas can emerge as learning communities and as telecommuting villages.... Technology will not only connect the school with the community but will also link the rural school with a global network of information and resources. Rural school reform may mean that someday students will not need to leave the rural area to find work. And living the good life in a rural community will exemplify how residents think globally but act locally as caring neighbors."

As I consider the work that will continue in the Britton community and school district, I am confident that they are positioned and ready to meet the challenges and recognize and retain the rewards.

Isabel - Frontier Community

Demographics (from the grant application)

Isabel is unique for its small size, its isolation, its poverty, and for its ability to achieve educational excellence despite these obstacles. The Isabel School District has 150 students in grades Pre-Kindergarten through 12. The town of 300 is located at the junction of the Cheyenne River Sioux and Standing Rock Sioux Tribe Indian Reservations. The student body consists of 70% Caucasians and 30% Native Americans affiliated with these two tribes. There are 13.375 FTE certified teachers employed by the district and three instructional aides. One of the aides is funded through Title IX: Indian Education and another is funded through Special Education.

Isabel is geographically isolated. The nearest hospital is 65 miles away. The population density is less than two people per square mile. Students who live outside of Isabel travel up to 30 miles to attend school, and all students travel substantially farther to attend or participate in extra-curricular activities. The school provides the majority of the educational and cultural assets in the community.

Isabel's students come from three of the four poorest counties in the United States. There is no manufacturing, so the economic base of the town is predominately agriculture. 70% of the district's students have family income below the poverty level. The school recently qualified for a Schoolwide Title I program based on the high percentage of low-income families. The school's ability to fund educational technology is hampered by the trust status of more than 50% of all land in Dewey, Ziebach, and Corson Counties, making large tracts of land exempt from taxation.

Dropping cattle prices threaten the school's ability to generate tax-based funding in the future and changes in the school funding formula have not offset these limitations. The school system has lost three teachers and one teacher/administrator in the past three years because of reductions in force. Decreases in state funding have resulted in the cancellation of the Gifted, STEP, and elementary guidance programs. Elementary physical education and library have been significantly reduced.

Despite these hardships, Isabel's students excel academically. Many have received top honors in state and regional Science Fairs, History Days, Academic Olympics, Spelling Bees and Quiz Bowls. Isabel students often receive outstanding ratings in both music and sports competitions. District ACT scores are historically above the state average, and were the highest in the state in 1993.

Description of the Planning Process at Isabel by Maggie Austin

Word travels fast in Isabel, and the news of the grant enthused the entire community. After reading their demographics (above), I was excited about visiting Isabel and conducting our first Goals 2000 meeting. There were over 30 people in attendance, including downtown business owners, ranchers, teachers, school board members, and four high school students. This obvious support and commitment characterized the entire school-year-long planning process.

Led by C.E.O. Charles Begeman, they decided early on that they would volunteer their time on the committee and not request stipends. They agreed that a local and highly respected physician's assistant (David Rollason) experienced in strategic planning should serve as the leader of the process at their site. My role became "outside expert" and general problem-solver when the committee got off-track. I also tracked down answers to technical questions as they arose, attended many of their meetings, and stayed in contact with the C.E.O., P.A., and several teachers via telephone and e-mail.

I also had the help of two additional TIE staff members (Gloria Steele and Harris Haupt) who frequently traveled with me, helped answer questions, and helped plan and deliver staff development activities. Having in-house colleagues who were familiar with Isabel was particularly helpful when I wrote the Technology, Teaching, & Learning Assessment. Later in the year, one of these staff members guided the process of writing a standards-based Communications curriculum with the Isabel staff. The other staff member is a telecommunications expert and answered many questions as the district planned its networking infrastructure for Internet access. Without the support of these two specialists, my job would have been considerably more difficult.

As autumn turned into winter, Goals 2000 meetings were being held weekly and the committee was getting tired. Most meetings were held after a very full school day. The local facilitator was doing a very thorough job and could not be persuaded to compact any of the steps in the crafting of the "environmental analysis" and "customer expectations" steps of the process. (These steps preceded the "Gap Analysis" and reflect the business orientation of the Isabel committee.) He was insistent that without laying the proper foundation, the rest of the plan would not stand. As it turned out, he was absolutely right. Later when disagreements or obstacles arose, the committee could look at those clear statements (called "School Purpose" and "The School's Most Important Values" in the Isabel plan) and come to consensus. Several of the tools used in these processes are in the Appendix.

During the "environmental analysis" phase of the planning, the energy level was interesting to track. As Isabel's strengths were discussed, the committee members showed their pride in their accomplishments and potential. When it was time for "weaknesses," we had to be vigilant about focusing on *the system* and *not* individuals. We had to constantly remind each other that a "weakness" was a system weakness and not a personal failure, and therefore did not need to be defended. As "opportunities" and "threats" were discussed and listed, a similar pattern evolved. Energy was high and positive during the opportunities, but tended to diminish during "threats."

We set aside an extended evening with refreshments for this part of the process, because it took several hours. Another important factor in this evening's success was the surveys that were sent out ahead of time so that we could have input from former students and others who could not be present at the meeting. Examples of the surveys are in the Planning Tools section of the Appendix.

It is a profoundly empowering process to take control of one's destiny. This small community had visionary and proactive people who wanted to define and build a future. As their work took shape, the synergy was almost palpable as solutions and ideas combined to form the strategic plan. The "no boundaries" thinking that produced the final plan was largely the result of encouragement from the P.A. and the C.E.O. When a potential obstacle was mentioned, it became almost a game to find a way around it.

Langford: Motivated Core of Teachers

Demographics (from the grant application)

The average daily membership at the Langford Public School for the 1995-1996 school year was 238 students. The school district employs twenty-six (26) teachers which is a FTE of 21.2 as we share a speech teacher with the Britton Public Schools, have a half-time home economics teacher, a half-time special education teacher, a half-time kindergarten teacher and a half-time librarian.

We employ three cooks in the school lunch program, two full-time custodians, three teacher aides, one interpreter for a deaf child, one secretary and five school bus drivers for a total of fifteen (15) paraprofessionals.The student body is made up of 240 students in K through grade 12 at the Langford attendance center, and 34 students K through 8 at the Newport Hutterite Colony that is staffed and run by the Langford School District.

Our school district is made up of approximately ninety-percent rural students who are bused daily to the attendance center. The Hutterite Colony is so organized that busing is not needed as they all live within three to four blocks of the school. We have made available to the colony all of the existing and planned facilities of the Langford attendance site and hope to build the bond between both as each have something to contribute and offer the other.

Our school district is continually striving to provide better educational opportunities for students within a framework of declining state and local funding. Based upon the United States Department of Agriculture income eligibility guidelines for free and reduced meals, 54% of our students (148 of 274) come from low income families. To maintain and improve quality programs and curriculum already in existence, we find it necessary to seek out and obtain other non-traditional funding sources. Your monies would allow us to expand our established technology curriculum for the education of our students, faculty, and community.
(Larry W. Wattier, Superintendent)

Reflections on the Planning Process at Langford by Marlene Rothermel

On entering the Langford community and school for the first time, my impression was one of tradition. Winding dirt roads led to a stately brick building that was flanked by a park and single family dwellings - a stone lion standing guard at the school entrance. We (Dr. James Parry, TIE director, Joe Hauge, TIE ED/Tech Specialist and myself) were directed to the school cafeteria where home-made breakfast rolls were being served to students and faculty and an equally inviting lunch was being prepared. In this family setting, we presented the objectives and intent of the GOALS 2000 project to the faculty and school board. During an introductory presentation, Dr. Parry challenged our audience to look at the ramifications of current and future technologies for the Langford school and community. And so the planning process was started with a focus on the needs of the students beyond those currently provided in this tradition-rich, technology-poor setting.

The following month, Peggy Blair (curriculum specialist), Gerald Raymond (telecommunications specialist), and myself (project leader) met with the newly-assigned technology planning team. Membership on this team had been determined by the administration and grant writing team to reflect the key stakeholders that they believed would be necessary to plan and implement the grant required improvement plan. (See team membership listing in the Langford planning document). The very obvious leadership for the Goals 2000 project came from three teachers, with tacit approval from administration. This preliminary meeting was to focus on defining our various roles and responsibilities as we embarked on the planning process, as well as to begin the development of a vision for teaching and learning in the Langford school district.

Technology audits had been conducted by Langford and TIE staff prior to this meeting to determine use, access, skills and attitudes related to technology and technology integration. The results of these assessments, audits, and surveys provided baseline data and planning recommendations. Refer to the Technology Audit Reflections portion of the Technology Action Plan for the critical issues that were identified. The majority of the critical issues went far beyond planning for technology and required that the planning team address the larger areas of curriculum, staff development and budget priorities. One clear concern that the students who were interviewed and who served on the planning team expressed very clearly was that amid the changes they wanted assurance that the personal attention and caring that their teachers afforded them day after day was not compromised. The students' affirmation that the most important teaching the school was providing was self-respect and a desire for learning indeed served to honor the dedication of the teachers in Langford.

This planning team met monthly in September, October, November and December. During these meetings the strategic planning work was accomplished with the writing of a mission, vision, and belief statements. This type of strategic planning was a very novel and energizing activity for the planning team. It brought together, for the first time in a decision-making setting, diverse stakeholders to discuss the educational system as a whole, reflecting on the components of their system that were serving their students and the areas where they were not preparing students to compete outside their isolated and insulated rural setting.

As the monthly meetings progressed, it became evident that the majority of the team was ready to abdicate responsibility for the remainder of the work, which they now saw as acquisition decisions that would "finish" the grant obligations and allow classroom teachers to proceed with some new technology in place.

During this planning process, various staff development activities were carried out, with the intent of informing the teaching and administrative staff about the integration of technology to provide enhanced learning and teaching opportunities. A mixture of excitement, frustration, and denial were part of the staff response to these learning opportunities. Excitement by those staff who were eager to incorporate technology into their classrooms, frustration and concern with the challenges of changing professional practices within a very traditional system structure, and denial of the benefits technology integration could afford by those staff and administration who were not yet ready to let go of long-standing education practices.

As expected (feared), the planning team decided to assign the remainder of the "project" to the three teachers who had originally written the grant, with myself as the facilitator. Our task was to "finish the technology plan and then bring it to the school board for approval." The remainder of the project year was spent in accomplishing this task. The Core Planning Team (identified in the Technology Action Plan) worked tirelessly to formulate the objectives of the Action Plan, spending a great deal of energy getting staff input at each stage of the writing. Their hard work and persistence were rewarded when the school board did accept most of their immediate staffing, technology budget, and implementation recommendations (see the Technology Action Plan). Effective long-term implementation and follow-up will be dependent on the energy, persistence, and expertise of the two remaining core planning team members (one member has left the district).

The challenges that Langford will face in implementing and continuing an effective planning process are many. The Core Planning Team members have full-time teaching duties and their ability to continue providing the leadership for the work that will need to be done in curriculum, infrastructure development, staff development, and community outreach would appear to be insurmountable (even for them) without extensive colleague and administrative collaboration and effort. I cannot applaud enough the efforts and intent of the planning team members, and especially the vision and dedication of the core planning team - if journeys indeed begin with the first steps of courageous leaders, then the Langford School District is embarking on a rewarding adventure.

Sioux Valley - Ready for Change

Demographics (from the grant application)

The Sioux Valley School District is located in east central South Dakota. The geographic dimensions of the district include locations in three counties, and encompasses 185.95 square miles with an average student daily membership of 3.5 students per square mile, which illustrates the rural nature of the district. Three distinct communities are located within the boundaries of the district. The smallest of the communities, located at the southern parameter is Sinai, with a population of 150. The community of Bruce, with its population of 250 residents, is located on the northern edge of the district. The school facilities are located in roughly the center of the district in the community of Volga, which boasts 1450 residents.

The school district serves a diverse student population of 656 students, with approximately an equal representation coming from the towns served by the district and the farms in the area. To meet the varying needs of the student population, the Sioux Valley School District is a member of the Northeast Educational Services Coop, which provides technical assistance with a variety of special education services, and administers federal funding under consortium agreements.

The district is also a member of the East-Central Multi District, which offers vocational education experiences, in addition to local vocational offerings, to approximately 45 Sioux Valley students in the areas of building trades, sales/marketing, automotive, electronics, business, and health professions. Approximately 85% of the graduates enroll in post secondary programs pursuing either a traditional four-year college degree, or a vocational/technical program.

The district employs a four member administrative team which includes the superintendent, elementary principal, junior/senior high principal, and business manager. A certified instructional staff of 47.357 FTE's is maintained to deliver educational services to the student population. The certified instructional staff is supported by 10 paraprofessionals employed as aides or teacher assistants.

The Planning Process at Sioux Valley by Joe Hauge

There were two distinct forces that came together to make this year-long planning process a great success at Sioux Valley. First, Sioux Valley has been collecting the puzzle pieces of change for the past five years. Second, a new superintendent took a hands-on approach to pushing technology forward at their district. Because these two forces came together at the same time, the resulting energy was nothing short of amazing.

Over the past five years, Sioux Valley has embraced a culture of change. With strong support from the community and school board, the district realized that a good education today looks different than it did in the past. The district took advantage of a three-year modernization effort sponsored by the state of South Dakota. This process gave administrators, teachers, and the entire district an opportunity to look closely at what was happening in their school. They came away from the process with an understanding that they had a good school, but that it wasn't good enough to prepare their students for the world they would face in the twenty-first century.

There were several changes that took place at Sioux Valley as a result of the modernization process. A school improvement council was formed that greatly enhanced the involvement of the community with the school district. This council serves as a valuable source of community input that impacts district policies and provides a means of communication between the district and community. The district also began having early release days every Wednesday to provide time for ongoing staff development. This Wednesday afternoon release time is one of the key factors that has helped staff create a paradigm of "no more business as usual."

Another benefit of the modernization process was a greater commitment to technology. Even though Sioux Valley has valued computers since the early 1980s, this commitment was significantly increased during the time of the modernization process. The district placed a line item in the budget each year for technology. As a result, technology spending over the past six years has averaged at least $100 per student per year. The district now has 125 Macintosh computers (LC II or above). That is one Macintosh computer for every 5.2 students. This spending has helped improve technology access for all students and staff.

Two years ago, Sioux Valley hired a new superintendent. While the past superintendent was very supportive of technology, the new superintendent was actively involved with technology in the district. The new superintendent wrote two important grants for the district. The first grant was the Goals 2000 grant that provided the funds for this year-long technology planning process. The second grant was for the Wiring the Schools project. Wiring the Schools is a project by the state of South Dakota that uses prison inmates to wire every classroom in the state.

This wiring includes computer, telephone, cable television, and electrical upgrades. It is a significant project that gives each school district a free technology infrastructure. This superintendent not only wrote grants, but he actively participated in all technology-related issues and projects. He attended every Goals 2000 planning meeting. He worked closely with staff from the Wiring the Schools project from beginning to end. He also worked with US West to establish a T1 line into the district. This active participation with technology was in addition to his other duties, but he believed strongly in the importance of technology in moving the Sioux Valley School District forward.

So, these forces made it possible for Sioux Valley to have a successful year of technology planning. The process started in September when the administrative team selected the members of the technology committee. The first meeting of this committee occurred in late September with the day focused on visioning which included a "technology showcase" of new and emerging technologies. In October, TIE staff conducted a two-day technology assessment. (This assessment follows the Sioux Valley Technology Plan in the Appendix.) This provided a snapshot of where the district was with technology. In November, TIE gave a multimedia and written report highlighting the findings of the October technology assessment. The technology committee was given the assignment of studying the technology assessment over the six-week holiday season and asked to come back with suggestions, comments, and ideas.

In January, the technology committee started meeting on a monthly basis. These meetings always occurred after school and lasted about two hours. These meetings focused on the gaps between the school's technology vision and the snapshot of where the district currently was. Discussions ranged from computer platform to curriculum to e-mail packages to network design. Each member of the committee spent a great deal of time between meetings researching topics and thinking through their positions on important issues facing the district. TIE also played a critical role in bringing options and solutions to each meeting. By the time it was May, the major issues had been discussed, and an action plan had been developed. This document was put together by the district's administrative team and TIE, but the content and ideas came from the work of the technology committee.

The primary focus of the planning process was the work of the technology committee. However, since this work occurred from 4 p.m. - 6 p.m. on the days of meetings, it was decided to have TIE use these days to work with students and staff. One day TIE conducted a hands-on inservice for the entire Sioux Valley staff. Another day was spent with administrators and computer teachers updating and revising the K-12 technology curriculum. Another day students from the advanced computer class worked with TIE staff designing Web pages in HTML. These activities proved to be beneficial as staff development and as a way to get staff and students focused and excited about technology.

The Goals 2000 technology planning process worked wonders at Sioux Valley. I believe the process was so successful because the two forces described above were already present in the district. Sioux Valley had been collecting important puzzle pieces for five years. They also had a new superintendent with a "hands-on" approach to technology. This planning process brought these forces together to create a powerful new learning environment in the Sioux Valley School District.

3

Appendix A

On-Line Technology Planning Resources

On-Line Technology Planning Resources

The following on-line sites provide valuable, current information and guidance for planning leadership. These resources also provide numerous links to useful research-based information concerning technology planning and integration.

From Now ON, The Education Technology Journal authored by Jamie McKenzie: http://fromnowon.org/
Provides guiding information and models concerning technology planning, staff development, and reflective articles pertaining to current issues concerning technology integration.

McREL, Mid-continent Regional Educational Laboratory: http://www.mcrel.org/
Provides educational resources specific to standards-based education.

National Center for Technology Planning: http://www.nctp.com/
A clearinghouse of information about technology planning and serves as a storehouse of plans.

NCREL, North Central Regional Educational Laboratory: http://www.ncrel.org/
Provides assistance in developing comprehensive learning and technology plans. The *Pathways to School Improvement* Internet Server and *Learning Through Technology: A Planning and Implementation Guide* were especially helpful.

NCRTEC, North Central Regional Technology in Education Consortium: http://www.ncrtec.org/
Provides information and models to assist schools in integrating technology into their classrooms.

University of Illinois at Urbana-Champaign: http://www.ncsa.uiuc.edu/IDT/
A systems approach to planning and implementing a technology-rich school.

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Appendix B

Examples of Planning Tools

Examples of Planning Tools

Examples of the tools that were developed and used at different sites to facilitate the planning process follow this page.

Learning Environments: What's Changing?

This was used early in the process to stimulate reflection and discussion about individual committee member's educational philosophy. It was used in different ways at several sites. At one, this grid was presented on an overhead projector. Committee members were asked to write a description of where they were on the continuum between "traditional" and "developing" practices. After everyone had finished, each category ("Classroom Activity" or "Teacher Role" for example) was discussed in pairs. Then each pair reported their "salient points" to the larger group. This large group discussion developed a shared vision of ideal classroom practice. At another site, the written comments were transcribed into summaries under each category. Out of these summaries, a vision of classroom practice was collaboratively developed.

This tool was powerful because it gave teachers the chance to hear what community members felt about these critical educational issues. It also gave teachers the chance to share their beliefs and to articulate what obstacles existed to implementing them. In both cases, the discussion was positive and open. The facilitator was careful to set the stage for discussion of the **system** and its limitations, and *not* **individuals**. This stage set was important in setting the right tone.

You are here!

This graphic was developed for a committee that was stymied. They had spent one long evening discussing their district's strengths, weaknesses, opportunities, and threats (the "swot" process prior to the Gap Analysis). We had already worked on the vision as well. Working on the gaps between the two seemed to be a formidable task. They needed help in seeing where the process was leading. Using a graphic like this earlier in the process might help some committees stay on track. It shows how the parts of the planning process fit together.

Important Expectations

This tool was used at one site to help develop scenarios that would address the "swot" environmental analysis issues. This tool worked very well to help committee members identify their "customers" and to see issues from many different perspectives. In the small town where this tool was used, a significant portion of the population was on the committee! These grids were photocopied and filled in individually. Then responses were reported to the whole group and recorded on poster paper. This took several two-hour meetings and was very hard "thinking" work. But the results were worth the effort. It helped everyone develop empathy and understanding of different perspectives.

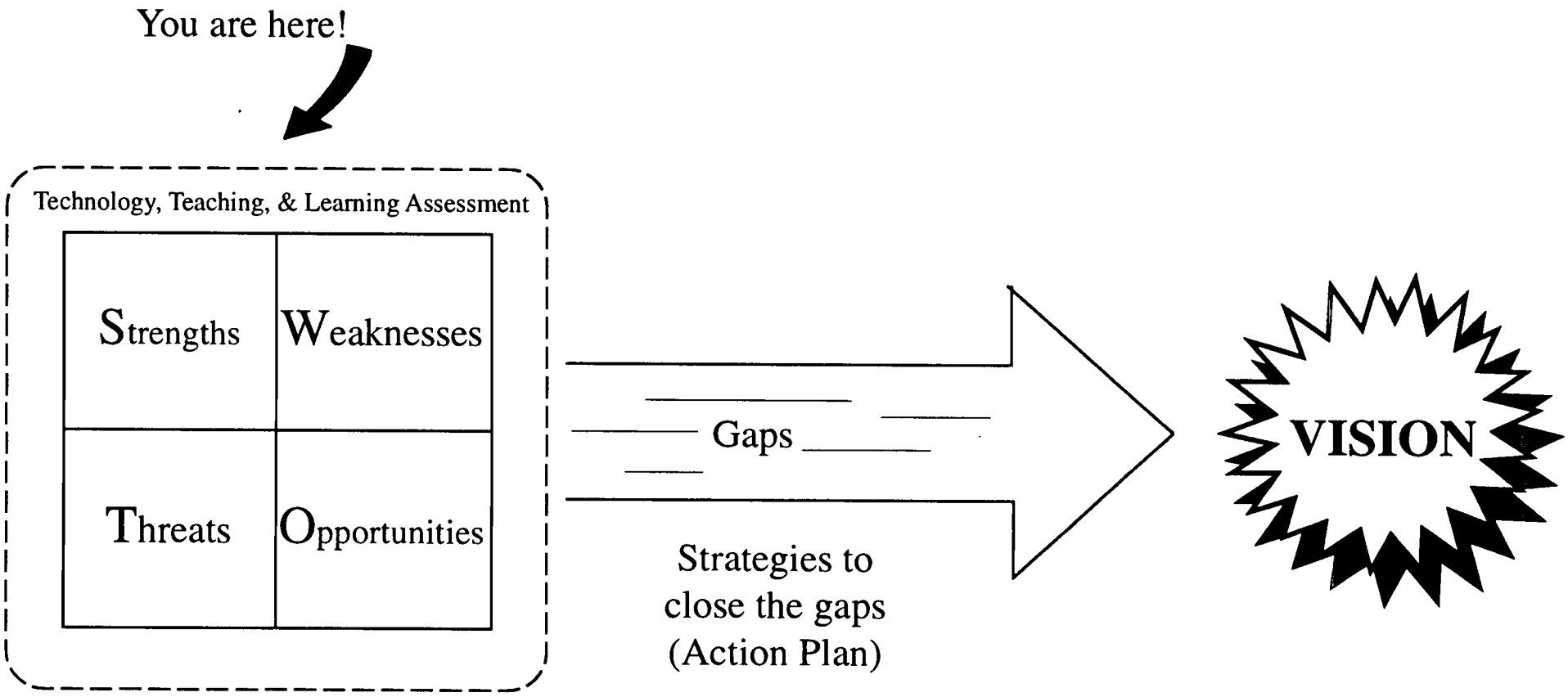
Surveys

Mailing out surveys and analyzing the responses was very enlightening in several sites despite the cost in time and money. The responses contributed to the "swot" process and broadened everyone's view.

Learning Environments: What's Changing?

	TRADITIONAL	→	DEVELOPING
Classroom Activity	Teacher-Centered Didatic	→	Learner-Centered Interactive
Teacher Role	Fact Teller Always Expert	→	Collaborator Sometimes Learner
Student Role	Listener Always Learner	→	Collaborator Sometimes Expert
Instructional Emphasis	Facts Memorization	→	Relationships Inquiry and Invention
Concept of Knowledge	Accumulation of Facts	→	Transformation of Facts
Demonstration of Success	Quantity	→	Quality of Understanding
Assessment	Norm-Referenced Multiple-Choice Items	→	Criterion-Referenced Portfolios and Performances
Technology Use	Drill and Practice	→	Communication, Collaboration, Information Access, Expression

Taken and modified from Educational Leadership, April 1994



Guiding Values & Principles
What you believe about teaching and learning.

IMPORTANT EXPECTATIONS

	Students	Parents	Teachers	The School	The School Board
What do **students** expect from...					
What do **parents** expect from...					
What do **teachers** expect from...					
What does **the school** expect from...					
What does **the school board** expect from...					
What does **business** expect from...					

Survey Cover Letter

Isabel School District Planning

This year a combined school and community group will be developing an educational plan for the next century. As a member of the Isabel community, you have a unique perspective on the needs of our graduates, as well as insight into the skills that our students will need in the future. Your opinions are important, and will help us develop the best plan for the future. Please only fill out ONE survey. Thank you very much for your time and your ideas.

There are six categories of surveys:

Business/Professional Person
Secondary Student
Teacher
Parent
Elementary Student
Former Student - Graduate

Isabel School District Planning

Survey: Business/Professional Person

Type of Business: _____

Strengths & Weaknesses of our Graduates

Please think about the school as a **system** for the delivery of education, rather than focusing on the strengths or weaknesses of any one teacher. School systems teach many skills, and preparation for business or a profession after graduation is an important focus. If you have ever employed an Isabel High School student or graduate, or would consider doing so, please respond to the following questions:

List three skills in which our students have consistently shown competence: (Examples: know how to talk to customers, know how to use a spreadsheet)

1.

2.

3.

List up to three skills that are important in your business or profession in which our students have been lacking: (Examples: don't know how to make change, can't write coherently)

1.

2.

3.

Threats & Opportunities

List one or more problems, issues or developments in the community, state, or country that may threaten your ability to stay in business in the next five years:

1.

2.

3.

List up to three services/courses you think the school should provide businesses and or adult learners for a fee:

1.

2.

3.

What are the three most important skills that each graduate from our school system should have to succeed in a business or profession?

1.

2.

3.

Isabel School District Planning

Survey: Secondary Student

Strengths & Weaknesses

Please think about the school as a **system** for the delivery of education, rather than focusing on the strengths or weaknesses of any individual. Schools teach many skills to prepare students for life. What do you think are the three most valuable skills that you are learning at school? (Examples: learning how to learn, learning how to write a report)

1.

2.

3.

Are there some skills that you think you will need in the future that you are not learning at school? Or are there some skills that you need more time to learn than you are getting now? (Examples: how to use the Internet, how to balance a checkbook)

1.

2.

3.

Threats & Opportunities

What do you think could happen in Isabel, South Dakota, the U.S., or the world that could affect your opportunity to get a good education?

1.

2.

3.

What are the most important things that you will need to know how to do in the future?

1.

2.

3.

What are the three most important skills that each graduate of our school should have?

1.

2.

3.

Isabel School District Planning

Survey: Teacher

Strengths & Weaknesses

Please think about the school as a **system** for the delivery of education, rather than focusing on the strengths or weaknesses of any individual. School systems teach many skills, and students learn more than just reading and math. Schools attempt to prepare students for life. We use the reading to learn how to operate equipment, and math to balance a checkbook.

What do you think are the three most valuable skills that this school system teaches? (Examples: learning how to learn, math skills)

1.

2.

3.

List up to three skills or educational components that you think are missing or should be improved. (Examples: Chinese or other language, vocational skills)

1.

2.

3.

Threats & Opportunities

List one or more problems, issues or developments in the community, state, or country that could threaten the quality of education delivered by our system in the near future:

1.

2.

3.

List up to three new ideas, practices, or technologies that you have read or heard about that the school should investigate in its efforts to improve.

1.

2.

3.

In what areas of your professional education do you think the school system should take a more active role?

1.

2.

3.

Isabel School District Planning

Survey: Parent

Strengths & Weaknesses

Please think about the school as a **system** for the delivery of education, rather than focusing on the strengths or weaknesses of any individual. School systems teach many skills, and students learn more than just reading and math. Schools attempt to prepare students for life. We use the reading to learn how to operate equipment, and math to balance a checkbook.

What do you think are the three most valuable skills that your child is learning in school?

1.

2.

3.

List up to three components of your child's education that you think are missing or should be improved. (Examples: how to read, vocational skills)

1.

2.

3.

Threats & Opportunities

List one or more problems, issues or developments in the community, state, or country that could threaten your child's opportunity to obtain a quality education:

1.

2.

3.

List up to three new ideas, practices, or technologies that you have read or heard about that the school should investigate in its efforts to improve.

1.

2.

3.

What role(s) should the school play in adult learning or continuing education?

1.

2.

3.

Isabel School District Planning
Survey: Elementary Student

Strengths & Weaknesses
Schools teach many skills to prepare students for life. What do you think are the three most valuable skills that you are learning at school? (Examples: learning how to learn, learning how to read)

1.

2.

3.

Are there some skills that you think you will need in the future that you are not learning at school? Or are there some skills that you need more time to learn than you are getting now?

1.

2.

3.

Threats & Opportunities
What do you think could happen in Isabel, South Dakota, the U.S., or the world that could affect your opportunity to get a good education?

1.

2.

3.

What are the most important things that you will need to know how to do in the future?

1.

2.

3.

Isabel School District Planning

Survey: Former Student - Year You Graduated _____

Please help us plan for the future.

Strengths & Weaknesses

Please think about the school as a **system** for the delivery of education, rather than focusing on the strengths or weaknesses of any one teacher. School systems teach many skills in an attempt to prepare students for life. What do you think were the three most valuable skills that you learned from the Isabel school system? (Examples: learning how to learn, writing a report, etc.)

1.

2.

3.

List up to three components of your education that you think could have been done better or were lacking entirely. Think about things that people in other school systems learned that you didn't, or areas of knowledge that you need now but did not receive. (Examples: how to keep a checkbook, how to use the Internet)

1.

2.

3.

Opportunities & Threats

Whether you are a rancher, homemaker, or business person there are important skills that people like you need to have. And there are developments in the world that may affect your future. List one or more problems, issues, or developments in the community, state, or the country that threaten your household, your job, or your business right now.

1.

2.

3.

List up to three ideas, practices, or technologies that will have an important influence on your occupation in the next five years.

1.

2.

3.

What are the three most important skills that each graduate from our school system should have?

1.

2.

3.

5

Appendix C

Technology Plans:

Britton

Isabel

Langford

Sioux Valley (also includes Technology Assessment)

Britton Public School 45-1

Technology Action Plan

May 1997
South Dakota Goals 2000
Technology-Based School Improvement Planning
Britton Public Schools Technology Planning Team
Technology & Innovations in Education Leadership Team

Foreword

To realize the benefits of technology, schools must develop a plan for integrating technology into the curriculum. An effective technology plan is based on the shared vision of educators, parents, community members, and business leaders who have technological expertise. It ensures that technology strengthens existing curricula and supports meaningful, engaged learning for all students.

This Technology Action Plan reflects the efforts and recommendations of the Britton Goals 2000 Technology Planning Team.

It was developed to inform and guide the implementation of technology-based school improvement as we prepare our students for the challenges and opportunities of the 21st Century.

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  - Statement of Past Major Technology Efforts
  - Statement of District Commitment
- Britton Mission
- A Brief Technology History
- Britton Technology Planning Vision
- K-12 Computer Philosophy
- Goals 2000 Planning Team Members
- Technology Audit Observations
- The Process: Year One

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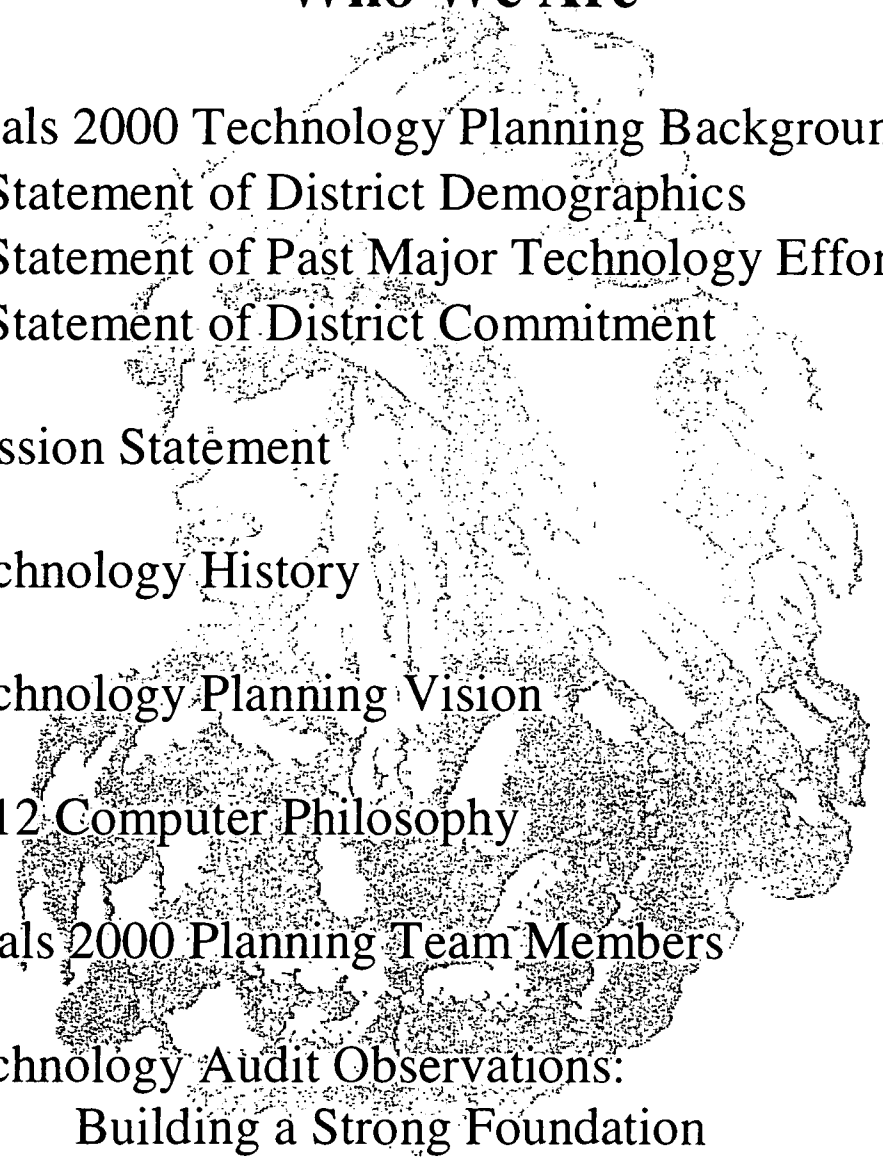
- Technology Goals
- Technology Action Plan Objectives
- Statements of Process, Recommendations, Evidence of Progress

Documentation in Support of the Action Plan:

- News Articles
- Current Infrastructure
  - Hardware Inventory
  - Floor Plan
- Curriculum Examples
- Technology Use and Access Plan

Who We Are



- Goals 2000 Technology Planning Background
  - Statement of District Demographics
  - Statement of Past Major Technology Efforts
  - Statement of District Commitment
- Mission Statement
- Technology History
- Technology Planning Vision
- K-12 Computer Philosophy
- Goals 2000 Planning Team Members
- Technology Audit Observations:
  Building a Strong Foundation
- The Process: Year One

Technology Planning Background
Britton School District
South Dakota Goals 2000
Technology-Based School Improvement Plan Application

Statement of District Demographics (1995-1996):

The Britton District is a K-12 district with an ADM of 498 students for the 1995-1996 school year. There are two facilities in the district and both are located in the city of Britton. The elementary was constructed in the early 1960s and is used for K-6 instruction and related services. The high school building was constructed in 1969 and is used for 7-12 instruction.

The Britton Elementary had a 1995-1996 enrollment of 267 students. There are two sections of all classes as well as related services. The Britton Elementary has a FTE of 18.4, three certified aides and two non-certified aides. The population make-up of the Britton Elementary would be very similar to many rural South Dakota communities. The majority of students are Caucasian with northern European ancestry. The number of students who are from a non-traditional background is increasing every year.
The Britton 7-12 had a 1995-1996 enrollment of 231 students. There are 16.5 certified teachers in the 7-12 facility and one non-certified aide. The high school has been accredited by NCA since 1927. The high school has a tradition of academic excellence. The vast majority of students graduating from Britton High School go on to some form of post-secondary training. The student body is proud of their 95% to 96% student attendance and their 95% to 100% graduation rate.

The Britton School District 45-1 is a rural district in northeastern South Dakota. The district includes the communities of Britton, Lake City, Kidder, and Amherst, as well as 444 square miles of rural area. Britton is the county seat in Marshall County and serves as a trade center for part of northeastern South Dakota.

Britton is a unique small town in that it has a very thriving industrial park. There are three large employers in the Britton community. Horton Industries is a very successful high-tech fan clutch plant. It employs 200 plus. Sheldahl is an electronic plant that produces electronic circuitry for major businesses (Delcom, IBM, Boeing, etc.). It employs 125 plus. Truss Pros is one of the largest truss/rafter companies in eastern South Dakota and employs 75 plus.

In addition to the industrial park, Britton has a very successful hospital/clinic, nursing home and business district. All of three businesses look to the school for leadership and training in the area of technology.

Statement of Past Major Technology Efforts Implemented in the Britton School District:

The Britton School District has been and continues to be a leading school in technology planning and implementation in the state. The spring issue of the T.I.E. Newsletter featured the Britton School District as one of the top technology schools in South Dakota. (Refer to supporting documents for article copy.)

The Britton Elementary had one of the first networked labs in the state. In addition to having an excellent elementary computer lab, there are computers in every classroom and all computers are hooked up to a centralized networking system. However, there is more to technology than hardware; you need to have a plan to utilize the technology. The Britton Elementary has an outstanding computer curriculum that has served as a model for several surrounding elementary schools. Each grade level has specific competencies that they are responsible for. The Britton Elementary truly has integrated computers into the curriculum.

In July of 1995, the Britton High School installed two new computer labs and placed computers in all of the classrooms. In July of 1996, every classroom in the school was networked for computers, cable TV and phones. We are currently bringing a 56K phone line in to the school and hope to provide school-wide Internet access before September 1st of 1996. We worked with Compaq Computers and Microsoft and agreed to become a test school for Microsoft NT on a large scale. Numerous schools have either visited or called for information regarding a computer network and curriculum.

We are currently applying for a telecommunications grant through the Northeast Council of Governments. The title of the grant is Developing Essential Services in Communities (DESC). The grant will provide the Britton district with a complete fiber optics telecommunication studio. The grant will also provide the Britton hospital with Picture Tell Video Conference capabilities. *(This grant was funded. Please refer to article in Supporting Documents section.)*

Statement of District Commitment to Ensure the Success of the Project:

The Britton School District (Board of Education, administration, faculty, students and community) is committed to providing the necessary technology to train our students for the 21st century and beyond. The district has spent more than $250,000 on technology in the last five years and has committed $90,000 for the 1996-1997 school year. (The district has committed $50,000 from capitol outlay, $20,000 for software, and $20,000 for staff development for the 1997-1998 school year.) We know that there is more to technology than purchasing hardware; the opportunities that the Technology-Based School Improvement Plan can bring to the Britton School District are countless.

Through the efforts of a dedicated staff/administration, and an eager student body/community, we will utilize the Technology-Based School Improvement Plan opportunity to the fullest extent. Workshops and community inservice programs will help generate the potential of technology for our educational staff and community leaders.

The school district is willing and ready to commit the valuable resources of both time and money to the program. We truly believe that the Technology-Based School Improvement Plan will allow us to put all of our technology efforts into a sound strategic plan. We will do everything possible to make the program a success.

BRITTON MISSION

The mission of the Britton School District is to promote a positive, challenging and safe environment for every student. Our goal is to provide all students with the life skills necessary for continuous growth as productive global citizens through a cooperative effort of school, family, business and community.

A Brief History of Britton's Technology Growth
Complements of John Thompson (Oct. 1996)

Britton started its move into technology with nine Commodore Pet computers in 1983. If I remember right they were $400 each or 3 for $1000. The main objective of our classes was to program. A year later we began word processing, although I can't remember the name of the program. It was nothing like the word processors of today. We eventually purchased 20 of these machines.

In the fall of 1991, four Macintosh LC computers were purchased and placed in the Chapter 1 rooms. These computers had a whopping 4 RAM and 40 MG harddrives. At this time (1991), a variety of IIe and IIgs Apple computers were in place around the school.

In the summer of 1992, a schoolwide network was put in. A computer lab of 23 Macintosh LCII computers (4 Ram/no harddrives), Macintosh LCIIs in each classroom/office, 18 ImageWriter printers and a LaserWriter IIf were purchased. A Quadra 700 file server and a networked CD ROM tower were also placed at this time. During this construction, approximately 45 networked Macintosh computers were put in place.

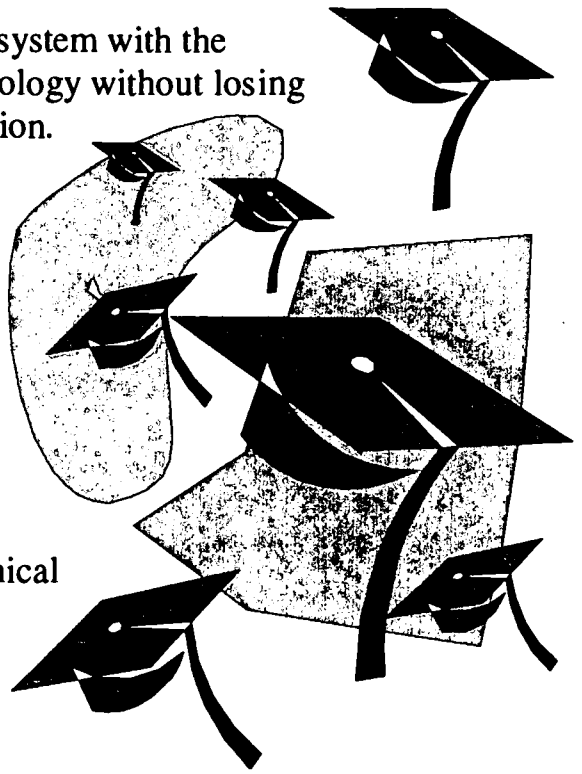
The Apple IIe purchase was made to enhance our word processing jobs. This led to the purchase of six Apple IIgs machines. We soon had a networked lab of IIgs machines controlled by an Apple Mac Classic and AppleShare. In 1995 two Compaq labs were installed and we were on our way to a new adventure in the use of technology.

At the present time we have 69 Compaq and one IBM computers, a scanner, digital camera, dot matrix printers and a laser printer. The server is a Proliant 1500 using 3.51 NT server software. The building network has been completed and we are connected to the world via the Internet. TIE has helped us in many ways and we do appreciate it. I now have Windows 95 on all the machines except two and the installation of the Internet software should be completed soon.

Technology for the Britton School was made possible by the work of many people. Mr. Butler, Mr. Kirkegaard, the school board, and the patrons of the school district share a common vision about the need for technology in education. This is evident by the fact that they never hesitated to give us financial as well as verbal support.

BRITTON TECHNOLOGY PLANNING VISION:

- To connect our community and educational system with the global environment through the use of technology without losing sight of the human element and basic education.
- To become a Community Learning Center, providing exposure, encouragement, opportunities and an open, comfortable environment for ageless education.
- To expand occupational knowledge and opportunities in our community.
- To encourage responsible citizenship and ethical behavior in the use of technology by promoting positive decision-making skills.



Britton K-12 Computer Philosophy

In our rapidly changing age of technology, we believe that computer awareness is an essential life skill to prepare students of all ages for their futures.

The Britton School District believes that through the use of computers and technology, we will enhance, enrich and extend the curriculum.

Goals 2000 Planning Leadership

The Britton Technology Action Plan for the implementation and utilization of computer-based technology has drawn upon a wide range of sources and involved many individuals. The Goals 2000 Planning Team acknowledges the contribution of the following groups and individuals:

We especially recognize:

- The Britton Board of Education
- Superintendent Donald A. Kirkegaard
- Principal Marcia Forrester
- Computer Coordinators John Thompson, Lisa Thomas, Lori Rabenberg
- TIE consultants Marlene Rothermel, Peggy Blair, Gerald Raymond
- All the students, staff members, and community representatives who participated in technology surveys and interviews. These individuals gave of their valuable time to provide the planning team with much needed input and support.

Goals 2000 Technology Planning Team

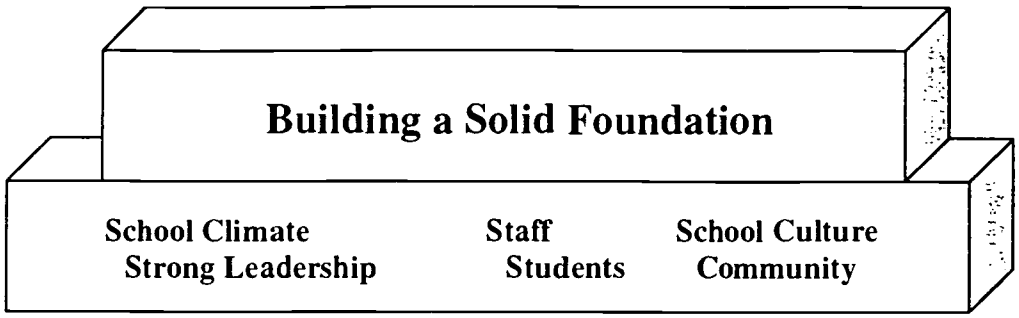
Craig Teveldah	Community/Business Representative
Cheryl Walberg	Britton School Board
Lori Rabenberg	Business/Computer Teacher
Carla Grimsrud	Grade 3 Teacher
Peggy Davidson	Grade 3 Teacher
William K. Haywood	High School Counselor
Graig Grupe	High School Student
Lisa Thomas	Grade 6 Teacher/K-6 Computer Coordinator
Greg Hamiel	High School Mathematics Teacher
Kelly Bosse	High School Student
John H. Thompson	7-12 Computer Coordinator/Computer Teacher
Jim Andrews	High School Student
Linda Richter	High School English/Journalism Teacher
Karen DeVine	High School/Jr. High English/World/SD History Teacher
Mike Likness	High School Band Instructor
Andy Johnson	High School Student
Gretchen Christenson	PTA President
Terry Price	Community/Business Representative
Kim Buhl	Britton School Board
Sheri Zuehlke	High School Student
Don A. Kirkegaard	Superintendent, Elementary Principal
Marcia Forrester	High School Principal

Technology Action Plan Sub Committees

- Curriculum:
  - Greg Hamiel, Linda Richter
  - Kelly Bosse, Peggy Davidson
  - John Thompson, Gretchen Christenson
  - Karen DeVine
- Staff Development:
  - John Thompson, Carla Grimsrud
  - Sheri Zuehlke, Cheryl Walberg
  - Marcia Forrester
- Technical Infrastructure:
  - John Thompson, Lisa Thomas
  - Lori Rabenberg, Mike Likness
  - Craig Teveldal, Jim Andrews
  - Andy Johnson

Technology Action Plan Writing Team

Marcia Forrester, John Thompson, Lori Rabenberg	Britton High School
Peggy Davidson, Carla Grimsrud, Lisa Thomas	Britton Elementary School
Gretchen Christenson	Britton Community
Kim Buhl	Britton School Board
Marlene Rothermel	TIE Leadership Team



A school climate and culture that reflects:

- Pride in facilities – physical plant is clean, welcoming and inviting;
- An infrastructure that provides opportunities for development;
- A caring, supportive atmosphere;
- Students as the priority of the school;
- The school as a vital part of the community;
- A positive attitude toward technology.

Strong leadership that includes:

- A forward-thinking superintendent who is positive, visionary, and supportive of staff efforts;
- A positive, supportive High School Principal who has excellent rapport with staff and students;
- Technology coordinators who are respected by administration, staff, and students.

Staff who:

- Include strong teacher leaders;
- Established positive working relationships;
- Value one another's expertise, experience and personal worth;
- Verbalize an overall caring, supportive, can-do attitude;
- Are willing to improve classroom instruction via technology.

Students who:

- Are secure and involved in their school experience;
- Believe they are part of a good school system that is preparing them for their future;
- Feel valued by both their school and their community.

A community that:

- Is supportive of student and student and staff efforts and activities;
- Has a positive, progressive attitude toward technology;
- Exemplifies a strong school/community relationship.

The Process: Year One Planning Activities

In September of 1996, the Technology Planning Team began to formulate the Technology-Based School Improvement Plan guided by the following Goals 2000 project requirements:

- Complete a district-wide technology inventory;
- Develop a 3-5 year Technology-Based School Improvement Plan;
- Participate in professional development activities addressing critical issues such as organizational development, implementing content standards, using and integrating technology and telecommunications applications, and assessment;
- Initiate acquisition and implementation of tools and/or applications identified by the local school improvement plan, and;
- Conduct follow-up activities to maximize the potential and impact of the local planning effort.

The planning process began with a **technology audit conducted by the TIE leadership team**. The findings and recommendations were presented to the local planning team to inform and guide their efforts. *(Please refer to previous page: Building a Solid Foundation)*

The planning team met on a regular basis throughout the planning year to examine current uses and future possibilities for strengthening the Britton School System through effective technology use. Guided by the Britton mission, the team adopted a Technology Planning Vision and established the priorities that would form the Action Plan. Technology Action Plan Subcommittees were formed to articulate priorities in the areas of curriculum, staff development and technical infrastructure. The Technology Action Plan Writing Team then formalized the processes to achieve and evaluate the priorities that had been established.

During the planning year various staff development opportunities were sponsored through Goals 2000 Planning Grant funding and Britton district staff development resources. TIE staff, as well as Britton technology leadership personnel, facilitated staff development opportunities. Topic focus for the planning year was the enhancement of teaching and learning through use of the Internet and email. Opportunities to preview multimedia resources for the one-computer classroom were also provided to staff and students.

John Thompson, Lori Rabenberg and Lisa Thomas provided community awareness of the developing infrastructure. American Legion Auxiliary members viewed student's multimedia projects and discussed the use of technology in education; the Britton PTA attended a demonstration of the Internet and email capacities, Lion's Club members shared an opportunity to communicate via email and use the Internet to look up stock quotes. Community education classes for both adults and students were offered in the areas of computer basics, word processing, database, and spreadsheet and are planned for Internet and email use.

Through Goals 2000 funding the **entire Britton staff attended the TIE Conference** in Rapid City. Britton **technology leaders presented** at the TIE Conference and the Watertown Regional Inservice. **Planning leadership staff and community members attended** the Charting the Future Leadership Conference in Aberdeen, the Scholastic Network training workshop in Sioux Falls and will attend the Windows NT Server Administration training in Sioux Falls. (Funding support through Goals 2000.)

Reflections from Planning Team Members at the beginning of the Goals 2000 Planning Year included the following insights:

My hope is that Goals 2000 will put in place the resources and training to connect our students to the world. The training of students and teachers to use this technology effectively is the most important task we need to address. (Britton staff member)

Hopefully (through Goals 2000) we will get a good start. Even if we don't get everything "put it", we will hopefully know what we want to accomplish. (Britton High School student)

(I hope that Goals 2000) will increase awareness of what technology has to offer our school and educate us as to how best to use technology in our classrooms and community. (Britton staff member)

The greatest challenge is how to integrate all that you can do with technology in the classroom. It's difficult to do, because I don't want to leave behind those "tried and true" parts of the curriculum – and yet I want to provide those new and exciting ideas to the students, without making it (technology) just one more thing. (Britton staff member)

The most challenging aspect for us will be to develop a working plan that not only can be agree upon by our committee, but will also be acceptable to the rest of the school staff and the community. (Britton community - industry representative)

The easiest task this year will be getting the electronic technology set up. The most challenging will be teaching the students – making sure they know what's going on and how it (the technology) works. (Britton High School student)

The most challenging for us may be finding the time to do this (the planning). In a small community everyone is involved in many things, so education of the people may become more of a one-to-one process. (Britton School Board member)

What We Hope to Accomplish

- Technology Goals
- Technology Action Plan Objectives
- Statements of Processes, Recommendations, Evidence of Progress

The integration of technology is critical to the success of the Britton School District Mission. Four far-reaching goals must be met if this plan is to be realized so that our students are prepared to meet the challenges of the 21st Century.

Teaching and Learning: *The design of new learning environments that include changing curriculum, instruction, and assessment in response to the new tools of education.*

System and Resources: *The alignment and allocation of resources to empower new models and processes in support of technology-rich learning environments.*

Technical Infrastructure: *The realization of a technical infrastructure that assures equitable access for all stakeholders in the educational community.*

Human Infrastructure: *The identification of new roles for educational stakeholders and district staff to maintain and improve both technical and people infrastructures.*

"Schools in isolated rural areas can emerge as learning communities and as telecommuting villages.... Technology will not only connect the school with the community but will also link the rural school with a global network of information and resources. Rural school reform may mean that someday students will not need to leave the rural area to find work. And living the good life in a rural community will exemplify how residents think globally but act locally as caring neighbors."

(Harmon, Seal. Kappan, Oct. 1995)

Britton Public Schools
Technology Action Plan Objectives

- Enhance the teaching and learning process through access to a variety of technologies.
- Establish a network interconnecting all offices and classrooms in the district. Students and district staff will have local and worldwide access for communication and the access of information to expand curriculum and management resources.
- Institute a staff development program to assist staff in becoming competent users of technology applications and creative designers of technology-infused learning activities.
- Integrate technology to facilitate the implementation of interdisciplinary curriculum, enhancing and expanding the teaching and learning environment.
- Establish a community-wide education program.
- Develop a committee to guide the district in the implementation, revision, expansion and evaluation of the vision, goals, and recommendations outlined in this action plan.

> *We are in an information society. We can't teach our students everything, so we need to teach about access, to be creativity with what is available. If we've spent $100,000 on fancy typewriters then we've wasted money. If we're only using computers for drill and practice then computers are expensive copy machines.*
>
> *We need to keep on top of technology changes. We can't just throw this in place and say this will do for the next 10 years.*
>
> *Technology will open doorways of teaching and learning that we have never dreamed of!*
>
> *(Britton Staff Members)*

Enhance the teaching and learning process through access to a variety of technologies.

We believe that equitable access is the primary key to the effective use of technology. Putting the right tools in the right place with appropriate support helps to ensure that students, staff, and the community will benefit through their use. Appropriate and available technology tools will allow students and staff to achieve their educational and productivity objectives.

To implement and assess this objective the following action steps are recommended:

- Assessment of need:
  - Develop an evaluation tool for assessing current and future need for upgrading hardware and software.

- Availability of funding for software and hardware:
  - Provide a plan for setting priorities to guide funding and implementation of hardware/software acquisitions.

- Infrastructure in place or need for revamping:
  - Evaluate current infrastructure and plan for additional needs.

Recommendations concerning these action steps will be considered from the following groups:

Computer Coordinators
Administrators
Instructional Staff
Board of Education
Representatives from the community
Representatives from the student body

Recommendations from the above groups will be presented in writing to the Technology Leadership Team and the Britton Superintendent prior to April 1 of each school year.

"We need to assess how to effectively utilize all this stuff!!"

"We can't ask teachers to incorporate technology until the technology is available and accessible."

(Britton staff, 1996 technology audit)

Enhance the teaching and learning process through access to a variety of technologies.

Evidence of progress toward this objective will be achieved through examination and evaluation of appropriate data/information concerning the following:

- Revisit the student/computer ratio for equity of access and match to curriculum objectives.
- Revisit course descriptions to evaluate their accuracy and relevance as well as student progress throughout the stated curriculum objectives.
- Review and assess the current uses of technology in the curriculum.
- Evaluate student application of technology through interdisciplinary uses.
- Evaluate teacher preparation and application of current technology.
- Assess current software use relative to the curriculum with the anticipation of new needs and the availability of new applications.
- Evaluate current infrastructure and plan for additions that will be needed in the future.
- Create and implement a plan for preview/purchase of software upgrades/site licenses for each grade level, department, and administrative support unit.
- Instruction includes opportunities for individualized learning and evaluation.

> *"When classrooms have access to technological resources, teachers expect more of their students and can present more complex material. Students receive greater individual attention and take on more independent work. The teacher becomes more of a coach than an information dispenser, with more collaboration and work in small groups going on among students and between student and teacher. Integrating technologies into the curriculum encourages individualization of learning to accommodate various learning styles. Technology allows teachers more time to take advantage of he opportunities of technology."* (Dave Moursund, Director International Society of Technology in Education)

Establish a network interconnecting all offices and classrooms in the district. Students and district staff will have local and worldwide access for communication and the access of information to expand curriculum and management resources.

We believe that learning and teaching are processes of connecting people in order to communicate and share information. This network will extend the boundaries of the learning and cultural environment to make global resources available to students and staff. This access by teachers, students and community will enhance writing, communication, research, collaborative learning and interdisciplinary learning skills.

To implement and assess this objective the following action steps are recommended:

- Assessment of current telecommunication infrastructure to plan and implement improvements.
- Assess availability of funding and make recommendations for hardware/software acquisitions.
- Create and implement a plan for installation, maintenance, monitoring and instruction on the use of the system.
- Establish job descriptions for technology coordinators.
- Establish funding and time allowances for staff development to implement network resources into current curriculum.

Recommendations concerning these action steps will be considered from the following groups:

Computer Coordinators
Administrators
Instructional Staff
Board of Education
Representatives from the community
Representatives from the student body

Recommendations from the above groups will be presented in writing to the Technology Leadership Team and the Britton Superintendent prior to April 1 of each school year.

Establish a network interconnecting all offices and classrooms in the district. Students and district staff will have local and worldwide access for communication and the access of information to expand curriculum and management resources.

Evidence of progress toward this objective will be achieved through examination and evaluation of appropriate data/information concerning the following key questions:

- A robust network system has been installed, is maintained at a workable level, and is being used by teachers, students, and staff. Is the current infrastructure continuing to meet network needs?
- Are plans are in place for the continual upgrading of the system, including budget recommendations for appropriate network infrastructure improvements?
- Are written job descriptions for all technology coordinators in place and reviewed annually based on current needs and resources?
- Have appropriate network related staff inservices have been planned and attended by appropriate staff?
- Has professional leave for technology coordinators and appropriate staff been granted to insure leadership capacity and current knowledge base?
- Are college credit courses and other appropriate training provided on-site?
- Have distance learning possibilities been explored and offered as resources and network capacities allow?
- What evidence is there that the expanded network is improving staff communication and productivity?
- What evidence is there that the expanded network is improving student communication and achievement?

> *Research has shown that the use of telecommunications in the classroom has the potential to change the nature of teaching and learning (Foa et al. 1996, Means 1994, Wilson et al. 1995). It can shift the focus from whole-group to small-group interaction; it can mark a shift from lecture to coaching; and it can enable teachers to do more one-on-one work with students. It can help shift the focus from test performance assessment to assessment based on products and progress (Wilson et al. 1995). And it can encourage teamwork, collaborative inquiry, and individualized instruction (Means 1994, U.S. Office of Technology Assessment 1995).*
>
> Levin and Thurston, Educational Leadership, Nov. 1996)

Institute a staff development program to assist staff in becoming competent users of technology applications and creative designers of technology-infused learning activities.

We believe that staff technology competence will increase staff confidence in using technology as a tool to enhance the curriculum and their productivity.

Staff will receive ongoing technology development inservices in the areas necessary for effective integration into all grade levels and disciplines. The following opportunities will be implemented to assist faculty in incorporating technology into their curriculum:

- In district, on-going staff development concerning:
  - The effective use of existing hardware and software;
  - The effective use of the established network for communication and productivity;
  - Current models for teaching and learning;
  - The use of technology in the delivery of curriculum, instructional, and classroom management, and record keeping;
  - Training for office and support personnel to meet district management and record keeping needs.
- Establish a professional library (on-line and in print) that provides:
  - Current technology publications and newsletters for professional use;
  - Britton staff curriculum innovations and technology-related classroom learning experiences;
  - "How-to" publications for staff regarding common networking and application procedures.
- Allow staff release time for appropriate conference attendance, school visitations, curriculum design, and team planning to provide leadership for technology plan implementation.

> *"Four factors in the teaching environment made exemplary computer users more likely to be present: collegiality among users, school support for using computers for consequential activities, resources allocated to staff development and computer coordination."* (Becker, H.J.)

Institute a staff development program to assist staff in becoming competent users of technology applications and creative designers of technology-infused learning activities.

Recommendations for the implementation of these services include:

- Establish a K-12 staff development committee that will be responsible for planning and implementing staff development activities by:
  - Administering surveys to determine staff needs to successfully integrate technology;
  - Administering surveys to determine staff hardware/software use as related to curriculum, management and productivity;
  - Make recommendations for staff development programs and specific activities in support of curriculum integration, management and productivity;
  - Make recommendations for funding priorities concerning staff development needs.
- Provide coordinators with instruction, time and funding to become knowledgeable concerning current software and hardware;
- Staff will be updated in the current technologies through professional programs offered statewide locally and regionally;
- Staff will be provided with a centralized location for technology publications, newsletters and "how to" publications;
- Provide staff training in record management;
- Establish expected levels of staff computer proficiency and include these expected levels in staff evaluation and new staff hiring requirements.

The benefits of technology integration are best realized when learning is not just the process of transferring facts from one person to another, but when the teacher's goal is to empower students as thinkers and problem solvers. Technology provides an excellent platform – a conceptual environment – where children can collect information in multiple formats and then organize, visualize, ink, and discover relationships among facts and events. Students can use the same technologies to communicate their ideas to others, to argue and critique their perspectives, to persuade and teach others, and to add greater levels of understanding to their growing knowledge.
(ACOT, 1996)

Integrate technology to facilitate the implementation of interdisciplinary curriculum, enhancing and expanding the teaching and learning environment.

We believe that technology access and integration promotes student achievement and enhances academic progress. Mastery of general technology skills and the ability to apply those skills will prepare our students for success in the Britton Public Schools, higher education, the workplace, and living in the 21st century. Interdisciplinary units will allow teachers to work together expanding their curriculums to better serve the needs of individual students.

Technology will become an integral component of the curriculum in all grades and subject areas through the following:

- Staff will establish a process for in-depth reviews of the total curriculum, integrating technology where appropriate;
- Staff will attend a variety of workshops to increase their knowledge of using technology in the curriculum;
- The district will establish a K-12 curriculum team that will assess technology use in the curriculum and make recommendations based on the assessment;
- Appropriate staff and committees will research the availability of courses that can be accessed via telecommunications and assess student needs and willingness to participate in courses that are available;
- Appropriate staff and committees will research the need for and resources necessary to provide technology specific, work-related courses for grades 7-12 in such areas as: industrial technology, computer graphics, computerized accounting, WebPage development, etc. Establish, as possible, dual credit for these courses through area universities, colleges, and technical institutes.

Recommendations for design and implementation of an effective program for the integration of technology include:

- Each teacher (or teaching team) will develop and assess at least one unit or lesson that integrates technology into a classroom learning experience. Successful lessons will be published for the Professional Library either on-line or in print.
- Each grade level/department will develop detailed plans for the integration of technology in their curriculum. These plans will include priorities for hardware and software acquisition, recommendations for course changes and additions (7-12), staff development needs, as well as the anticipated effect on student achievement and assessment. The plans will be published either on-line or in print for the professional library.
- Britton staff will apply to present at appropriate regional, state, and national education technology conferences, receiving monetary support from the district if presentations are accepted (dependent on budget realities and recommendations from the Technology Leadership Team).

Integrate technology to facilitate the implementation of interdisciplinary curriculum, enhancing and expanding the teaching and learning environment.

Research conclusions show that:

- *Educational technology has a significant positive impact on achievement in all subject areas, across all levels of school, and in regular classrooms as well as those for special-needs students.*
- *Educational technology has positive effects on student attitudes.*
- *Student population, the instructional design, the teacher's role, how students are grouped, and the levels of student access to technology influences the degree of effectiveness.*
- *Technology makes instruction more student-centered, encourages cooperative learning, and stimulates increased teacher/student interaction.*
- *Positive changes in the learning environment evolve over time and do not occur quickly.*

(Mehlinger, Kappan, Feb. 1996)

I like using computers because I can use my imagination – like when I read a book without pictures. (Britton student)

I am seeing students using computers to enhance the quality and versatility of their work. (Britton staff member)

I'm comfortable with the changing role of the teacher to facilitator for student exploration. (Britton staff member)

The integration of technology is worthwhile because the students enjoy learning with it and their learning seems to be more meaningful. I haven't collected hard data on this, but believe it intuitively. (Britton staff member)

Establish a community-wide education program.

We believe that the active involvement of the community within the educational process is critical to the development of life-long learners who are adeptly equipped to become leaders in a changing world. An informed and involved community provides the structural support to build a progressive educational system.

To implement this objective Britton School staff will provide the leadership to:

- Establish a School/Community Education Program Team who will include, but not be limited to representatives from: current community education programs, school administration, K-12 teaching staff, support staff, community and business/industry partners. This team will be responsible for:
  - Assessing community educational needs and opportunities;
  - Scheduling classes and using local and area advertising to provide listings of courses offered through current continuing education program;
  - Organizing classes for college credit, continuing education, and special interest areas;
  - Developing a funding mechanism to support community education programs;
  - Insuring equitable educational opportunities for all community members.
- Research and begin to develop telecommunication/distance learning opportunities- both those that will originate from the Britton community and those that will be brought into the community.

Recommendations to guide the implementation of a community education program include:

- Build on the current community education program;
- Design and complete evaluations of all courses held to determine continued need and areas of revision;
- Solicit both school and community expertise to provide instructional leadership for courses offered;
- Work to form partnerships with area higher education institutions and area business and industry;
- Begin to develop telecommunications courses both originating from and brought into the Britton community.

> *We (the Britton School District) hope to become the Educational Center for our town and region. Community growth should start here with the growth of learning and training.* (Britton Staff Member)

Establish a Technology Leadership Team to guide the district in the implementation, revision, expansion and evaluation of the vision, goals, and recommendations outlined in the current Action Plan.

We believe that to meet priorities for technology and to ensure lasting improvement in students' learning, an annual review of the Technology Action Plan needs to be accomplished. The Technology Leadership Team will be responsible for the assessment and evaluation of the existing plan, generating and compiling information needed to make adjustments and recommendations that ensure both the quality and viability of the action plan.

To accomplish annual recommendations for implementation, revision, expansion and evaluation of the Action Plan the Leadership Team will:

- Include, but not be limited to, representatives from: school administration, K-12 teaching staff, support staff, community, student body, and business/industry partners;
- Develop an assessment process for on-going evaluation of technology-infused curriculum development and acquisition of current technology tools;
- Establish a cyclical purchasing plan that ensures up-to-date hardware, peripherals, software, and infrastructure enhancements;
- Provide annual budget recommendations that support adequate levels of staff training, user assistance, and maintenance and operational support for instructional technology;
- Review the number and type of technology support staff and propose updated and new positions to meet demands of new technology growth;
- Report findings and recommendations to administration and the School Board no later than April 1 of each school year.

The annual evaluation of the Action Plan will address the following key questions:

- Have the Action Plan objectives been met?
- Are improvements needed in the Action Plan? What new policies will be needed to support implementation?
- Which objectives were not met and how will they be re-addressed and attained?
- With the changing state of technological innovations, which objectives, priorities, and implementations need to be changed to meet current state-of-the art standards for teaching and learning?
- Is the district effectively utilizing a purchasing plan to keep technology current and meet the needs of all students?
- Is the cycling of hardware and software compatible with curriculum needs?
- Are technology support staff positions adequate to meet program needs?
- Have staff development opportunities resulted in greater staff competencies?
- What impact has the Action Plan implementation had on student achievement and performance?

Establish a Technology Leadership Team to guide the district in the implementation, revision, expansion and evaluation of the vision, goals, and recommendations outlined in the current Action Plan.

Vicki Hancock noted the following challenges and "advice" for leadership in planning for "Curriculum Reform through Technology Integration". (ASCD Curriculum/Technology Quarterly. Spring 1991)

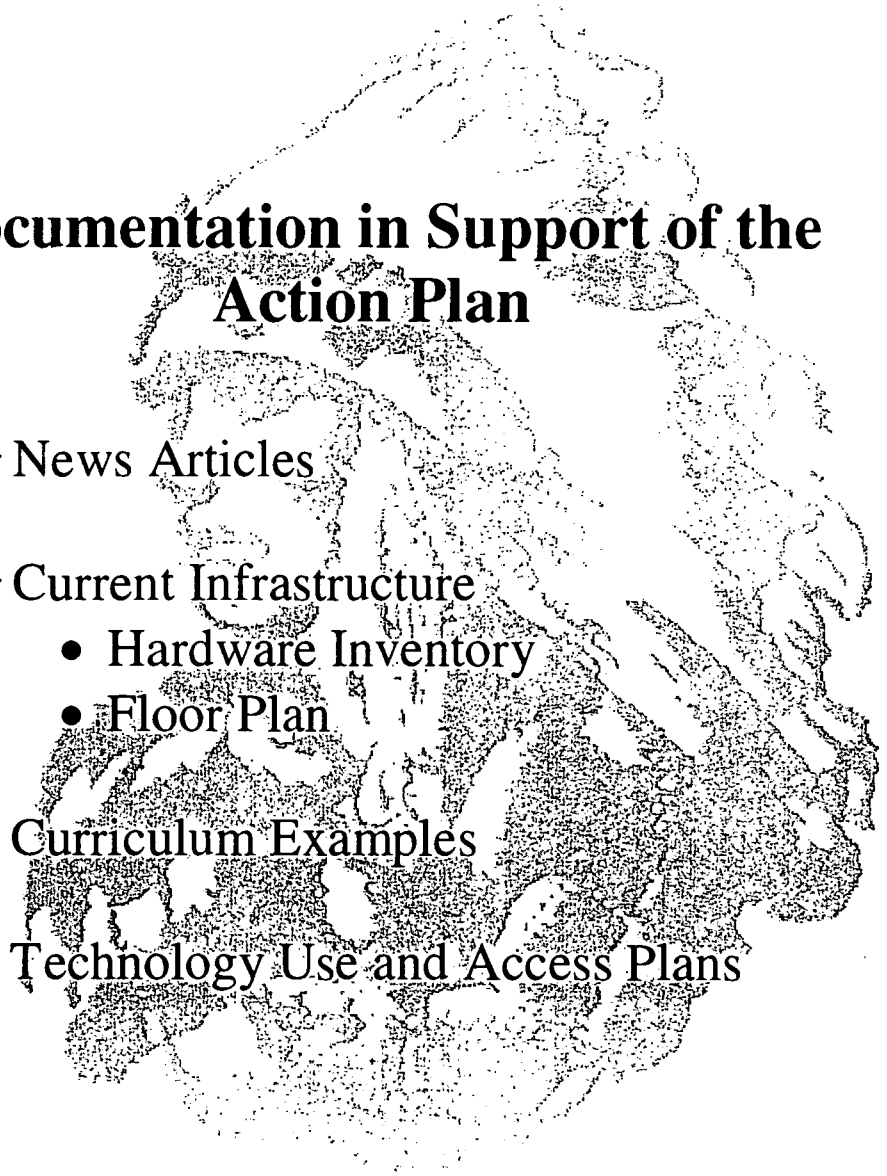
As districts and schools plan for curricular reform through technology integration, they should use the following requirements as guidelines:

1. *Students are knowledge producers as well as consumers; they must participate in their own learning.*
2. *Students must learn to access and use a knowledge base outside of themselves and their immediately available instructional materials; use of a variety of technologies facilitates this process.*
3. *Learning activities must be problem oriented and project organized, focused on an integrated set of knowledge and skills outcomes (interdisciplinary approach).*
4. *Learning activities must require applications, as appropriate, of a variety of technology support tools (e.g., work processor, database, telecommunications).*
5. *Learning activities must develop social interaction; such activities include collaborative learning and peer coaching.*
6. *Learning activities must produce meaningful work intended for audiences beyond the teacher.*
7. *Curriculum units must relate to a K-12 curriculum or framework; knowledge and skills should be organized in a scope-and sequence format.*

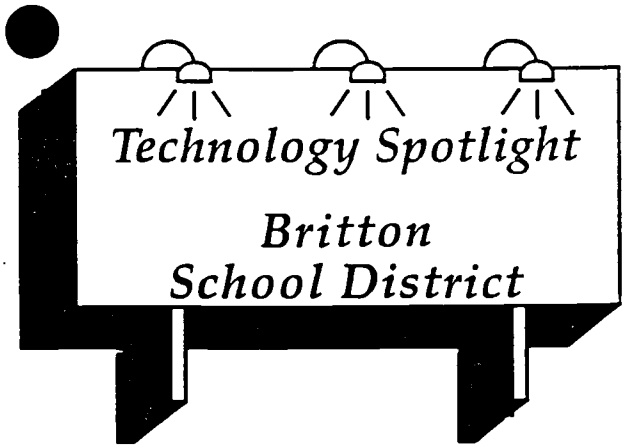
The International Society for Technology in Education reports (ISTE 1990):
"From examining the successful use of technology in educational environments, we know that the use of technology:

- *Permits teachers to assume new roles in the creating of learning opportunities for their students,*
- *Encourages individualization of learning experiences to accommodate various learning styles,*
- *Allows learning experiences far beyond anything available otherwise,*
- *Provides strong motivation for students, and*
- *Reduces time-consuming paper-work and allows teachers more time to take advantage of the opportunities of technology."*

Documentation in Support of the Action Plan



- News Articles
- Current Infrastructure
  - Hardware Inventory
  - Floor Plan
- Curriculum Examples
- Technology Use and Access Plans



by Joe Hauge, Education Technology Specialist

This school year, the Britton School District made a major investment in technology. They purchased a Compaq Proliant 1500 fileserver and 58 Compaq Prolinea 4/66 computers. These computers are all networked together using 10 MHz ethernet. The fileserver has a 2.1 GB hard-drive, 64 MB RAM, and is running Windows NT. By the start of next school year, every junior high and high school classroom will be connected to this network.

These new computers were used to create two labs in the junior high and high school. The first lab has 26 computers in it. Seventh and eighth grade students use the lab for keyboarding. Freshmen use the lab for their computer literacy course. In this computer literacy course, students use an interesting program called InfoBridge. The program simulates telecommunications applications such as e-mail. The simulation is used since Britton currently does not have an Internet connection.

The second lab has 28 computers in it. The technology coordinator for Britton, John Thompson, teaches advanced computer classes in this lab. One of the advanced classes is an exciting multimedia class. In this class, students use the program *HyperStudio* for Windows to create multimedia presentations. Pictures are scanned into the program using a Hewlett Packard color scanner. Students can also take digital pictures using a Quicktake 150 camera. This camera plugs to the back of the computer, so pictures are downloaded directly into the computer without using any film. There are 11 students in the multimedia class this year. Next year there are 41 students signed up for the course. This shows just how popular and interesting the class is for students.

This new technology is not only benefiting students, but adults are also learning. Night classes are offered for community members during the week focusing on such software as word processing, database, and CAD. Many of the classes are offered for college credit through Northern State University. The computers at school are viewed as a resource for the entire community.

The elementary has not been left out of the technology explosion. Actually, the first computer network installed in the Britton School District was placed in the elementary four years ago. Every elementary classroom has a Macintosh computer. There is also an elementary computer lab that has 23 Macintosh computers. Each elementary student spends at least 80 minutes a week in the computer lab. All the elementary classrooms and the elementary computer labs are networked using 10 MHz ethernet. Each elementary teacher brings his/her own class to the computer lab. This has worked well because each teacher can easily coordinate activities done in the lab with what is happening in his/her classroom.

In this short space it is not possible to highlight all the innovative ways technology is being used in the Britton School District. It is important to note that technology has been a high priority in Britton for the past several years. Superintendent Don Kirkegaard has provided key leadership in bringing together community members, school board members, administration, and teachers to form a common vision of providing students access to quality technology experiences. The Britton School District is using technology to lead the way into the twenty-first century. ■

Britton School District
PO Box 190
Britton, SD 57430
Enrollment (K-12): 500 students
Technology Coordinator: John Thompson
Superintendent: Don Kirkegaard
Telephone: (605) 448-2234
Fax: (605) 448-5994

School, Hospital Partners In DESC Grant Program

A federal grant of $375,000 will provide a link for Marshall County Memorial hospital and the Britton school district for telemedicine and distance learning, it was announced this week.

The program is Developing Essential Services in Communities (DESC). Local partners in the project are providing slightly more than $475,000 as a nonfederal match to the $375,000 grant. The total project cost is listed at $850,171.

The telemedicine portion of the program will provide for a two-way interactive connection between St. Luke's Midland Regional Medical Center and the Marshall County Memorial hospital in Britton, Eureka Community hospital and Redfield Community Memorial hospital. The network will permit doctor-to-doctor and doctor-to-patient consultations, especially with specialists whose services are generally not available in rural areas.

The technology will also allow doctors to monitor patients following surgery, supervise physician assistants and assist with continuing education for health care providers.

Participating rural hospitals will have access not only to St. Luke's Midland but to other medical facilities with compatible equipment.

Britton, Eureka and Sisseton school districts will have two-way interactive classrooms through fiber and microwave connections. This will provide distance learning programs for high school students and adult education but can also be used for teacher certification and staff development.

The Britton and Eureka schools will be connected directly to North Central Area Interconnect, an existing interactive network. The Sisseton school will also be able to dial into this network. The three schools will be able to connect to eight other schools with telecommunications capabilities, to state universities through South Dakota's Rural Development Telecommunications Network and to other sites around the world.

Details of the program were outlined at a meeting of the Britton board of education held Monday night. At that meeting the board authorized entering into the DESC grant program.

In other business the board approved a weapons policy, a food service contract with Sunset Colony, a contract with Technology in Education (T.I.E.) to access the $40,000 technology grant and acted to amend the district's budget to provide for grant funds. The board authorized the school's business manager to change the tax request prior to Oct. 1 to correlate with the state's final tax calculation.

The board approved contracts with Diane Eberhart at Sunset Rural, Jo Bush as Title I aide and Brian Rabenberg as assistant boys basketball coach. Approval was given Patty Maryott, Judy Hagenson, Shana Remily, Karen DeVine, Greg Hamiel and Linda Richter to serve as teacher assistance team members.

The board took action to call for bids for a copy machine, approved district handbooks and policy books, approved a request for leave without pay for Karen DeVine and tabled a similar request from Greg Hamiel. The board approved deeding the former Pleasant Valley school to Pleasant Valley township.

Current enrollment reports were presented to the board by Supt. Don Kirkegaard and Principal Marcia Forrester reported on plans for homecoming, a drug and alcohol forum and student council special interest sessions. Plans for an in-service set for this (Wednesday) afternoon were reported to the board.

PTA Schedules First Meeting

City Asks Limit on Watering of Lawns

THE BRITTON Journal

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Britton Infrastructure Summary
April 1997

With the completion of the Wiring the Schools project (approximately 9 miles of conduit and 36 miles of wire), the Britton School District will have the following capacity:

High School (7-12) Inventory and Capacity:

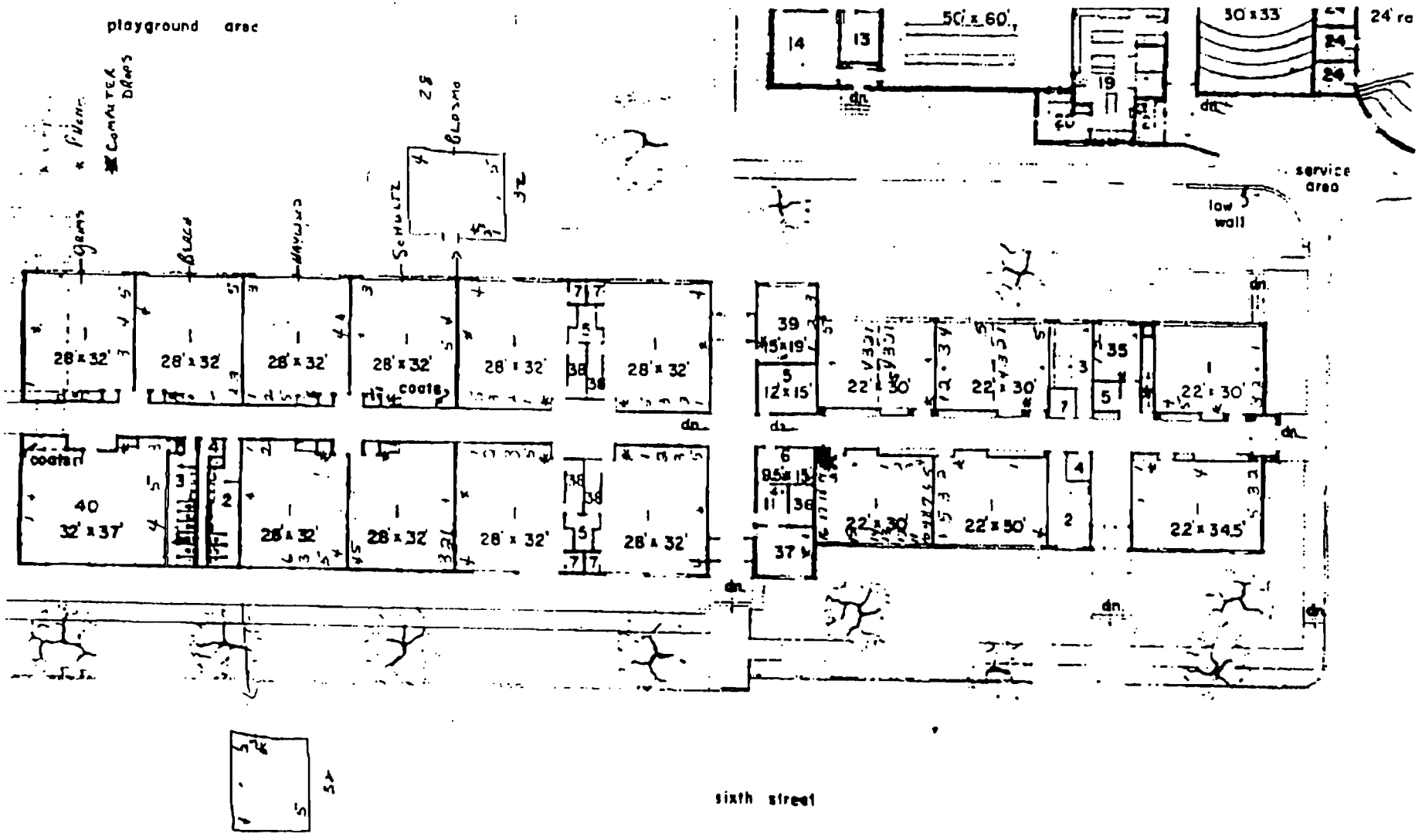
- Server and Hub Capacity:
  - Proliant 1500 server with 64 meg RAM, Pentium processor, CD ROM, 2.3 Gig harddrive, NT Server 3.51, 1 Compaq network card, 2 3-COM network cards, 1 APC Power supply – Power shute, 1 Mountain tape backup drive
  - Inteva 586 Unix proxy server for email and Internet
  - 16 port hub and 24 port hub in Room 104; 2 16 port hubs in Room 105; 1 24 port hub in second floor janitor's closet, 1 16 port hub in third floor janitor's closet
- Computer Lab configuration:
  - Room 104 - Compaq workstations, 16 meg RAM, running Win 95 has 40 computer drops, 40 electrical outlets, two phone lines and two cable TV drops; networked scanner and HP 660c color printer, 2 Epson LQ 870 printers, HP 4mv laser printer, five Quick Cam cameral systems, Sharp PC Projector, PC Viewer, Overhead viewer
  - Room 105 - Compaq multimedia workstations, 16 meg RAM, running Win 95 has 30 computer drops, 30 electrical outlets, two phone lines and two cable TV drops; 2 Epson LQ 870 printers
- Room 103 - 8 Macintosh LC, 30, Classic; 2 ImageWriter Printers
- Room 110 – Industrial Technology – 1 Macintosh LC 520, 1 Macintosh PowerPC, 10 Apple IIGS
- Shared by High School classrooms:
  - 17 Compaq Prolinea 466 with CD-ROM
  - Internet access
  - 2 Epson LQ870 printers
  - 1 Epson 570 printer
  - 1 HP InkJet 550 printer
  - 1 Pioneer 2200 LaserDisc Player
- Counselor's Office – 1 IBM ThinkPad, 1 HP Portable Printer
- Superintendent's Office – 1 Macintosh LC III, 1 Epson Equity 386SX+, 1 Apple Personal LaserWriter printer, 1 Epson LQ1050 printer, 1 HP DeskJet 500 Printer, 1 Swintec SI 1220 Fax
- Room 106 – Satellite, TV, VCR and hook-ups for RDTN set-up
- Each classroom and special area room has a minimum of 5 computer drops, 5 electrical outlets, 1 phone line, and 1 Cable TV drop (a total of 250 computer connections throughout the high school)
- Each classroom has a printer (or network access to a printer) and network access to a laser printer
- The administrative offices each have a Compaq workstation similar to the classrooms. Printers are in the offices or they have a network access to several printers.
- The administrative offices have stand-alone computers that are dedicated to particular tasks such as accounting and student records.

Elementary (K-6) Inventory and Capacity:

- File, print server: Quadra (Macintosh) with a 400 Meg hardrive
- Computer lab: 24 Macintosh LC II, 3 ImageWriter II printers, 1 PC Viewer
- Classrooms: Macintosh LC II (1 in each classroom K-6, 1 speech, 1 special education, 1 music, 4 in title room) ImageWriter printer shared by each two classrooms and 1 in each special area room.
- Library: 1 Macintosh LC II, Pioneer CD ROM Changer
- Portable for use in all rooms: Macintosh LC 520, Appledesign Pwrd Speakers, Sharp Color Proj. panel
- Office: 1 Macintosh LC II, 1 ImageWriter printer, 1 LaserWriter IIf
- Each classroom and special area room has a minimum of 5 computer drops, 5 electrical outlets, 1 phone line, and 1 Cable TV drop

Summer 1997 and Future Infrastructure plans include:

- Installation of a Safari System,
- Picture Tel System,
- CD ROM Stack,
- Fiber Connection from Elementary School to High School School,
- District-wide phone system,
- CAD system for Industrial Technology,
- Computer upgrade in elementary lab and classrooms.

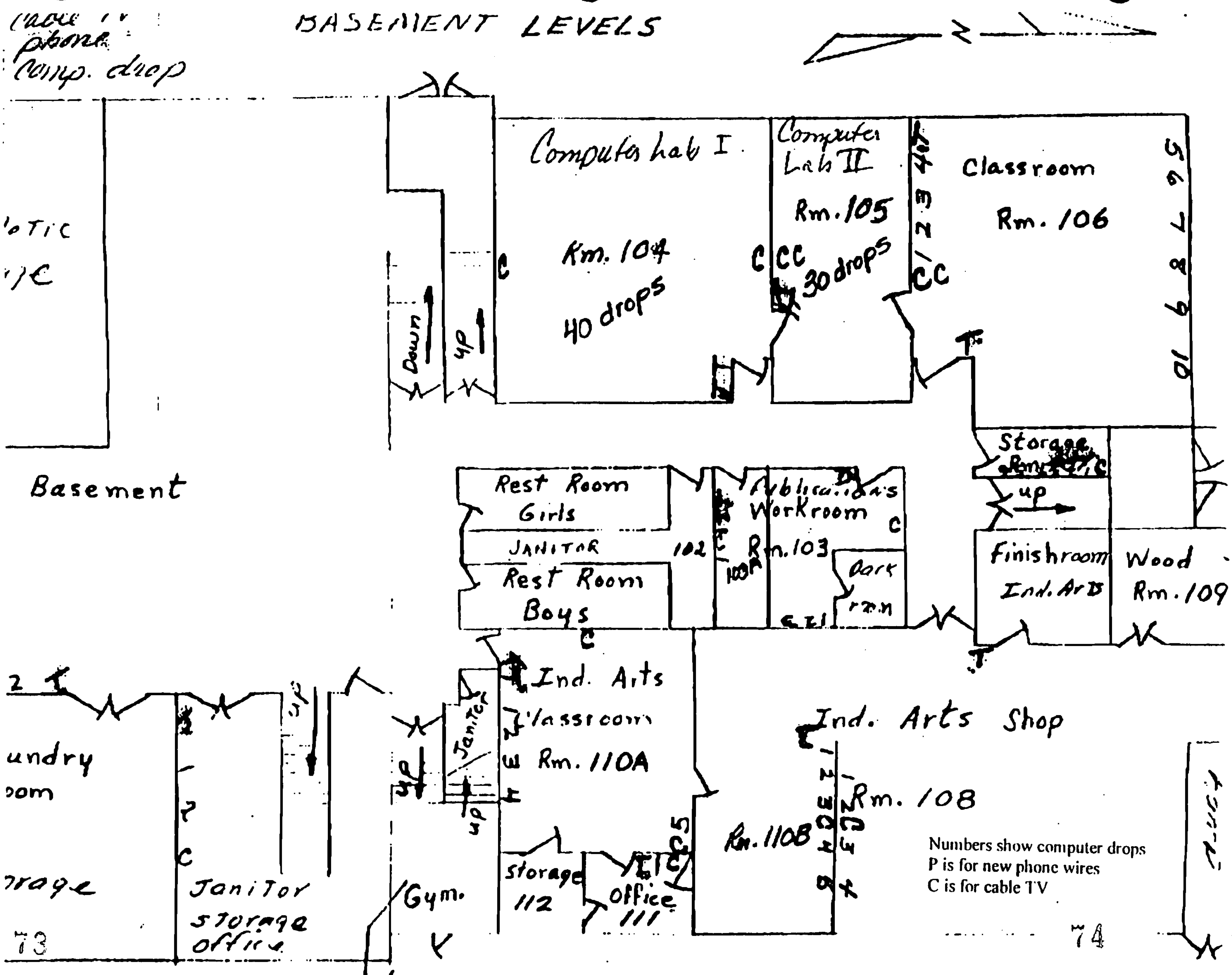


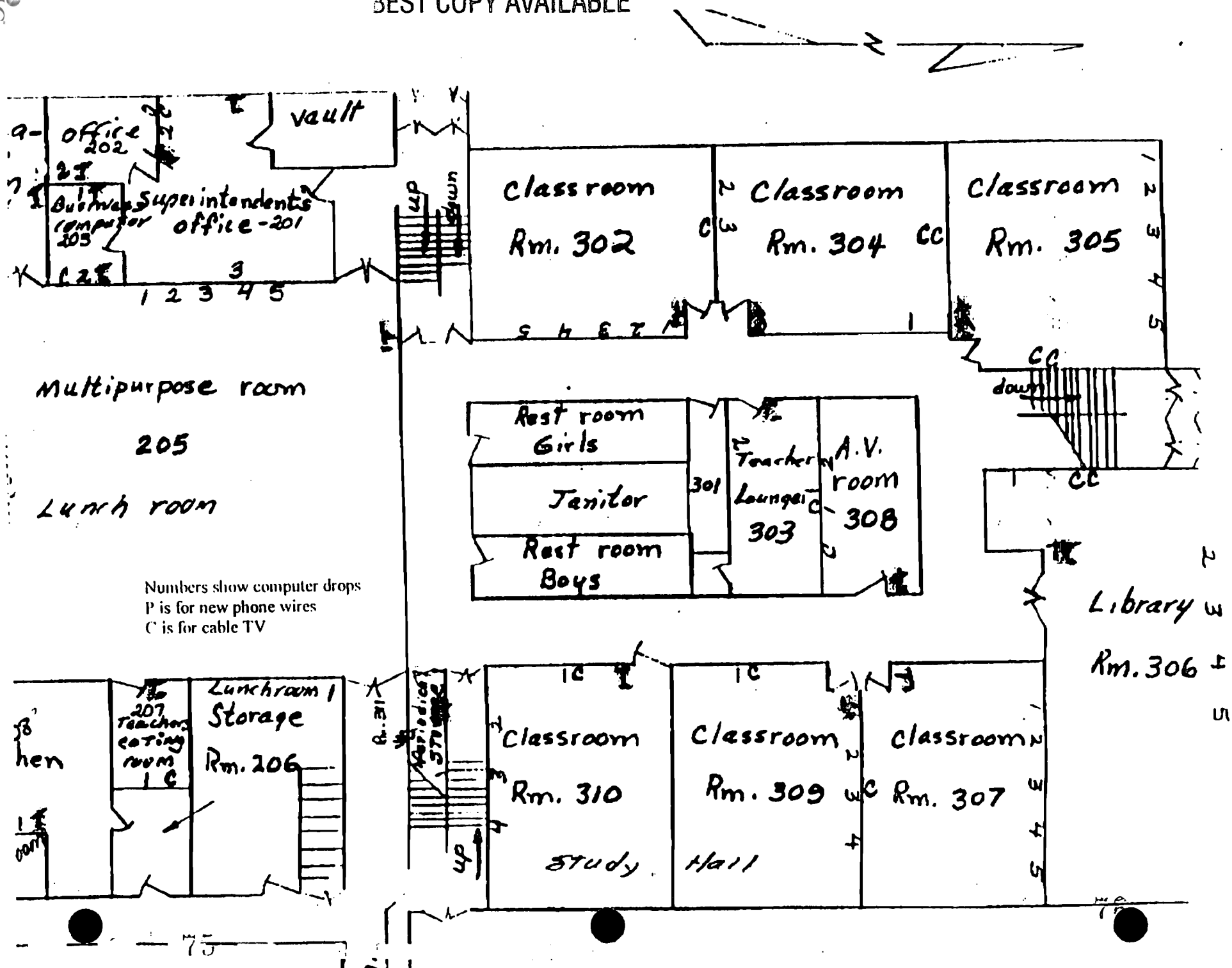
Numbers show computer drops
P is for new phone wires
C is for cable TV

71

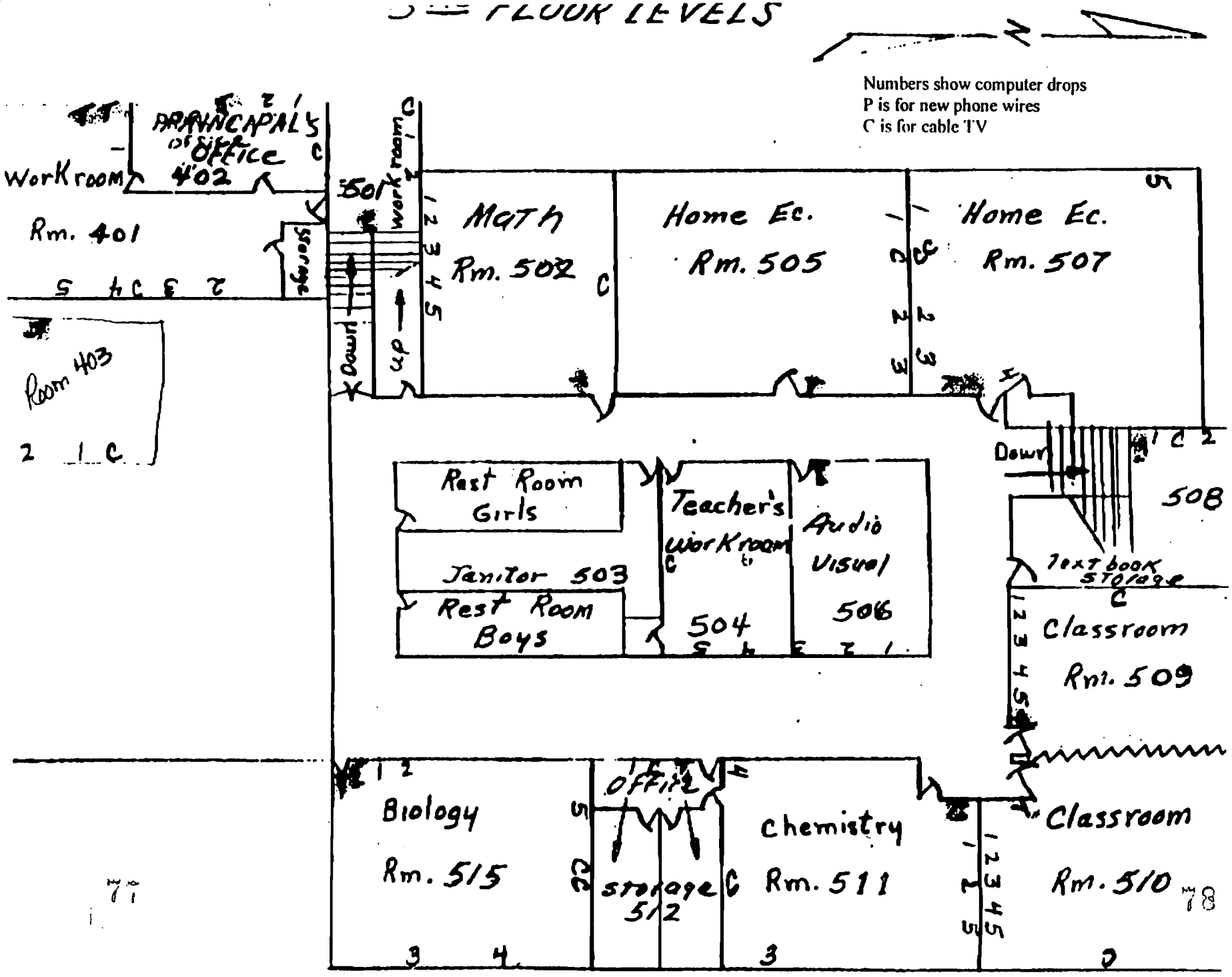
72

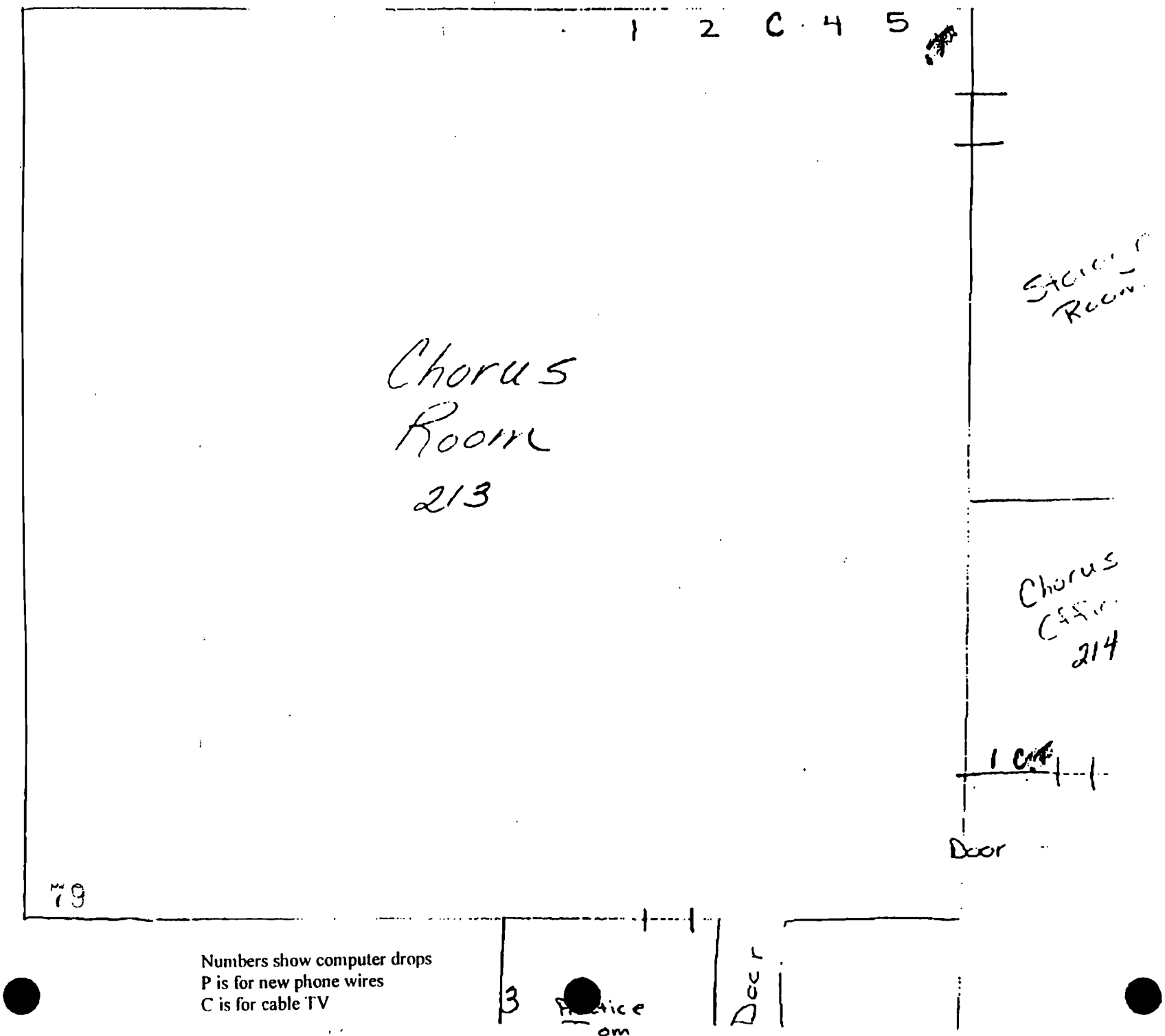
FIRST FLOOR PLAN


BASEMENT LEVELS
N
Computer Lab I
Rm. 104
40 drops
Computer Lab II
Rm. 105
30 drops
Classroom
Rm. 106
5 6 7 8 9 10
Storage
up
Finishroom
Ind. Arts
Wood
Rm. 109
Rest Room
Girls
JANITOR
Rest Room
Boys
102
Publications
Workroom
Rm. 103
103A
Dark
room
Ind. Arts
Classroom
Rm. 110A
Ind. Arts Shop
Rm. 108
Rm. 110B
Storage
112
Office
111
Gym.
Janitor
Storage
office
Basement
Down
up
Numbers show computer drops
P is for new phone wires
C is for cable TV

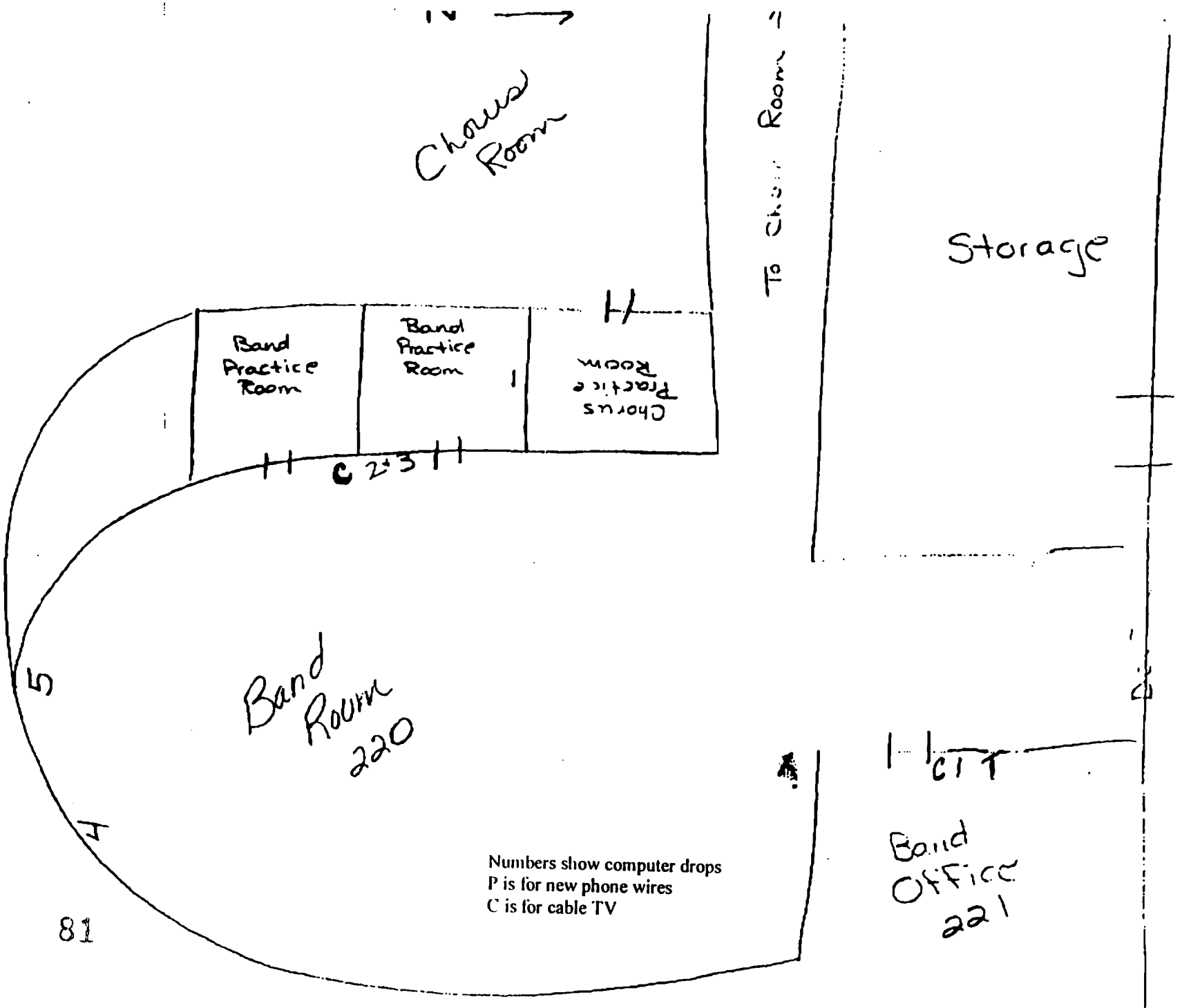


3rd FLOOR LEVELS





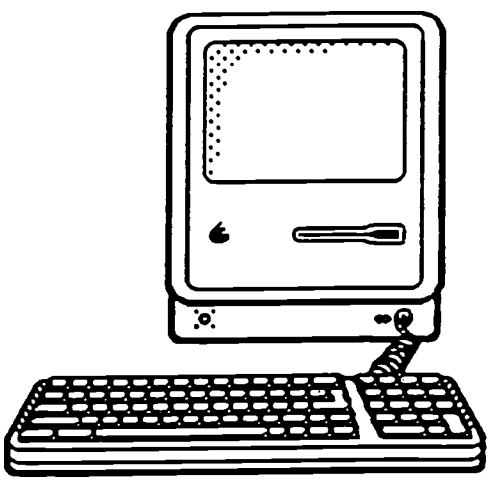
Numbers show computer drops
P is for new phone wires
C is for cable TV


Chorus Room
To Chorus Room
Storage
Band Practice Room
Band Practice Room
Chorus Practice Room
C 2 3
Band Room 220
5
4
81
Numbers show computer drops
P is for new phone wires
C is for cable TV
C T T
Band Office 221
82

B. E. S.

COMPUTER

CURRICULUM



Britton Elementary School

K-6 Computer Philosophy

In our rapidly changing age of technology, we believe that computer awareness is an essential life skill to prepare our children for their futures. Britton Elementary School believes that through the use of computers and technology, we will enhance, enrich and extend the curriculum.

Keyboarding Objectives

1. To provide students with an educationally sound keyboarding tutorial, incorporating both typing and word processing skills, that is easy to use and provides instant feedback.

2. To reduce teacher workload by providing a program that delivers appropriate instruction, marks students' work according to approved standards and provides records of performance with an easy to use Record Keeper.

Steps to Keyboard Mastery

1. New Key Lessons

2 Lessons Emphasizing Accuracy and Speed

3. Skill Builders: Words, Sentences and Paragraphs

4. Tests after every third lesson

Contents of *All the Right Type*

New Key Lessons: 1. Each new key is taught with its correct finger reach, without worrying about speed.

Timed Lessons: 2. Students strive to type letters, words and sentences accurately at a speed suited to their ability.

Skill Builders: 3. Students work with escalating drills. First words, then sentences and then meaningful paragraphs.

Tests: 4. Students are tested after every third lesson, and try to achieve a speed goal that is right for them. Tests are marked in accordance with the rules used by leading typing authorities.

7-12 Computer Curriculum

7th Grade = One nine-week class of Keyboarding. The students enhance their keyboarding skill, as well as learn the Compaq computer network used in the high school building. Word processing skills are touched upon as needed during this nine weeks period. Now that we are on-line, their Internet instruction will be included in this class.

8th Grade = A full year course called Keyboarding. This class reviews the keyboarding techniques and continues into the word processing. Documents to format include:

- memos (both simplified and formal),
- all formats of letters, both personal and business,
  - —I also introduce template files at this time. The students build a letter-head that they use on their business letters.
  - —I also teach WordArt and ClipArt at this time and they may use either or both on their letterheads.
- reports (unbound, leftbound, and topbound)
  - —As of this year, I am teaching a short unit on footnoting with this section.
    - The students were unfamiliar with exactly how to do referencing of sites, so we took a break from keyboarding and together we wrote a report with the whole class brainstorming for wording, etc. I then keyboarded the report with title page, etc. I didn't want to take the time for that report for everyone to keyboard it. They then did research on the Internet on a topic of their choice and wrote a short report using footnoting, etc.
- table and charts
- various short typewriter documents (index cards, envelopes, etc.)
  - We are running a network and thus do not reset the printers to do these type of documents.

PowerPoint (using Microsoft Office '95) is also included as the last unit of this class. The students are learning PowerPoint by all of us doing a similar presentation and then they will do a final project using a sports hero of their choice. This is an interdisciplinary unit combined with their reading class. They had a discussion, etc. on Jackie Robinson and we worked this in with it. They will present their project to the class during the last 3 class periods of the year.

We use this 8th grade class to do many mini-interdisciplinary units where the students research and then keyboard their results in some form or another.

9th Grade = The students take a semester course called Introduction to Computers. This class includes a little advanced word processing, spreadsheets, and databases all using Microsoft Works. I have them work on some projects with spreadsheets and databases using their own creativity. We combined with the Health class (which is the second half of the freshmen class) to do a large report on a specific drug. We have also done some units with research on the Internet. Because Microsoft Office was new to us this year, I am including PowerPoint at the end of their class. Before our school was on-line, I used Connect Online! software to simulate the telecommunications section of this class.

10th Grade = They have the opportunity of taking Computer Programming for a semester and/or Computer Multimedia (which is a class using HyperStudio). Both of these classes are offered to 10-12 graders.

11th Grade = See 10th Grade

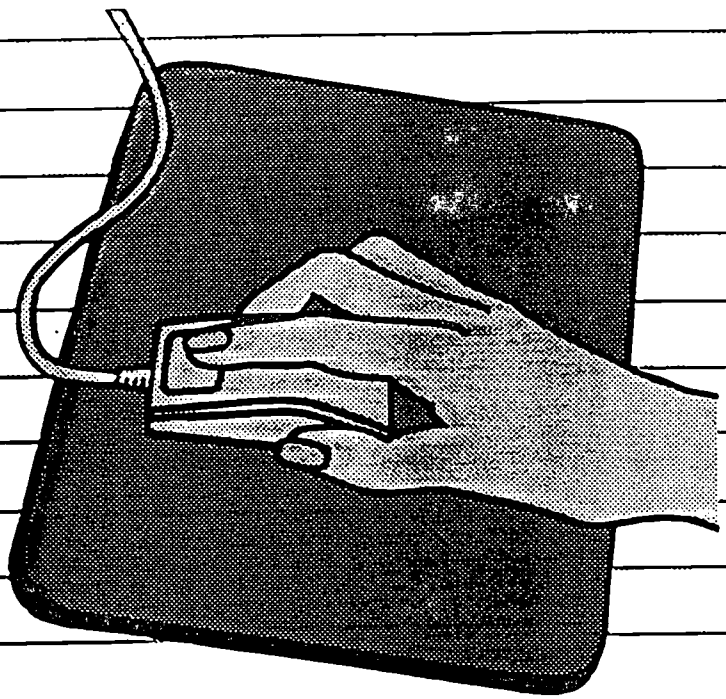
12th Grade = See 10th Grade

**Preference is given to the older students until the classes are filled. We have 25 machines with CD-ROMs. We leave one machine open for instructor use for projecting examples, and one machine is left open in case of machine troubles. That way a student is not left just "sitting" if their machine goes down.

Computer Programming = Students design programs using QBasic software. One Semester.

Computer Multimedia = Students do projects using the software HyperStudio. The students build "stacks" of cards and within those stacks they have to satisfy certain requirements for the different projects. Requirements may include sound, pictures, etc. The students use a scanner and a Quicktake camera as additional hardware and software.

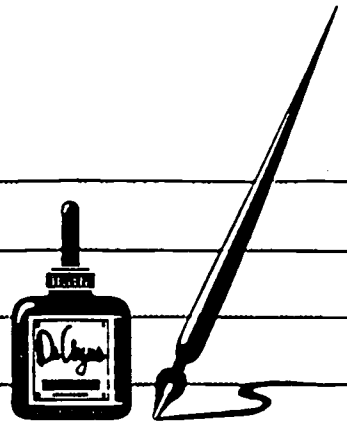
Computers - Enhancing the Curriculum, Not Adding To It!



Presenter: Lisa Thomas

Watertown Regional Inservice
February 14, 1997

Computer Resources:



MacWarehouse - 1-800-255-6227

Davidson & Associates - 1-800-545-7677

Sunburst - 1-800-321-7511

Scholastic - 1-800-225-4625

Educational Resources - 1-800-624-2926

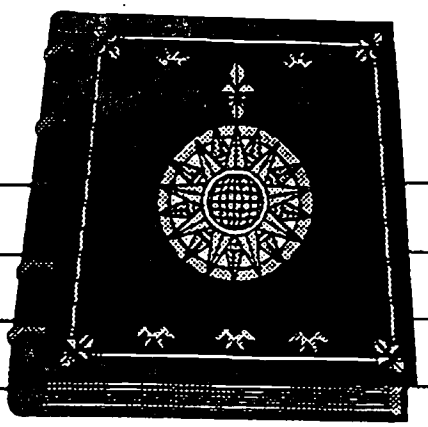
MECC - 1-800-MECC ext 529

MacMall - 1-800-552-8883

Tom Snyder - 1-800-342-0236

Classroom Connect - 1-888-Classroom

Reading Ideas:



* letter recognition - using Kid Pix - students stamp their name, current letter and pictures which start with the letter being studied

*create autobiographies

*cause and effect books - using the book Why The Z Was Zapped

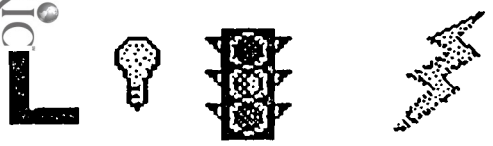
*write their own stories using a format used by another author - ex: Kat Kong

*creative writing

*give students a main idea and they supply the supporting details (using a word processor)

*create a story web

*create a rebus story



LEXY WEBER
AGE 6

Can you "taste" chocolate or pepper when you are not eating them?

DS
Black Print
One picture
Font: Chicago
Size: 14
Title & Name
3/4 Page
Print one copy

Math Ideas:

*type up math facts

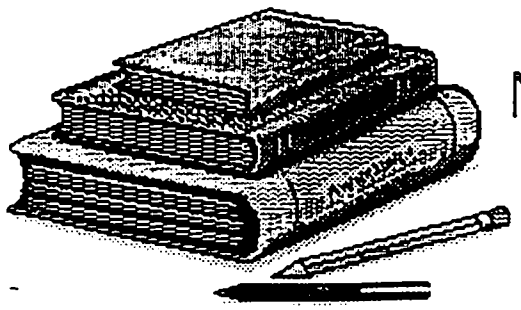
*create a geometry book using Kid Pix - students type the title, definition and show a picture of their topic (ray, line, segment, right angle, square, circle - whatever), make a title page, print off, bind and you have a book!

*create real or imaginary figures using specific shapes - ex: Cindy the Circle, Sam the Square

*number recognition

*create graphs of varying types

*give students a list of fractions and have them create illustrations



Multiplication Facts
Stephanie Olson

6x1=6

6x2=12

6x3=18

6x4=24

6x5=30

6x6=36

6x7=42

6x8=48

6x9=54

7x1=7

7x2=14

7x3=21

7x4=28

7x5=35

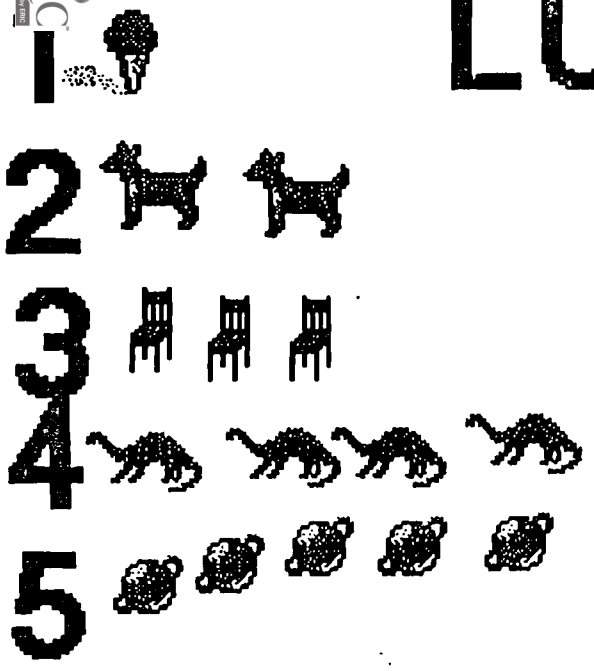
7x6=42

7x7=49

7x8=56

7x9=63

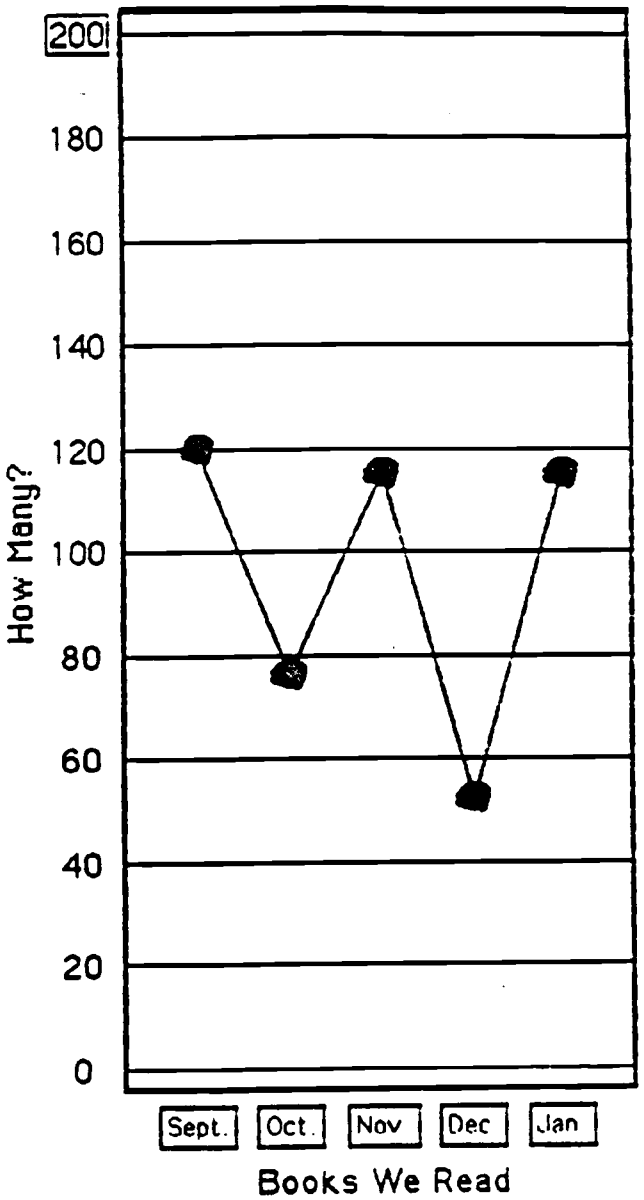
LUKE



AGE 6

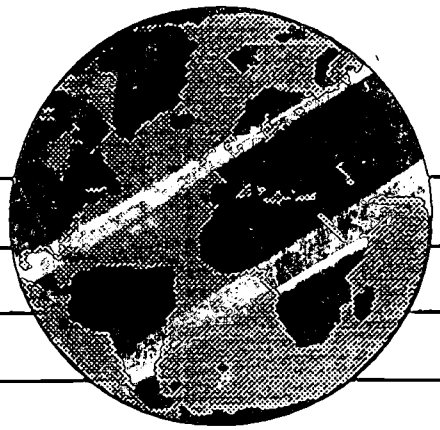
Books 3D Read This Year

Title	
Books W...	How Many?
Sept.	120
Oct.	76
Nov.	115
Dec.	52
Jan.	115



Mrs. Boyko, 2/3/97

Social Studies Ideas:



*draw a map of SD or your town

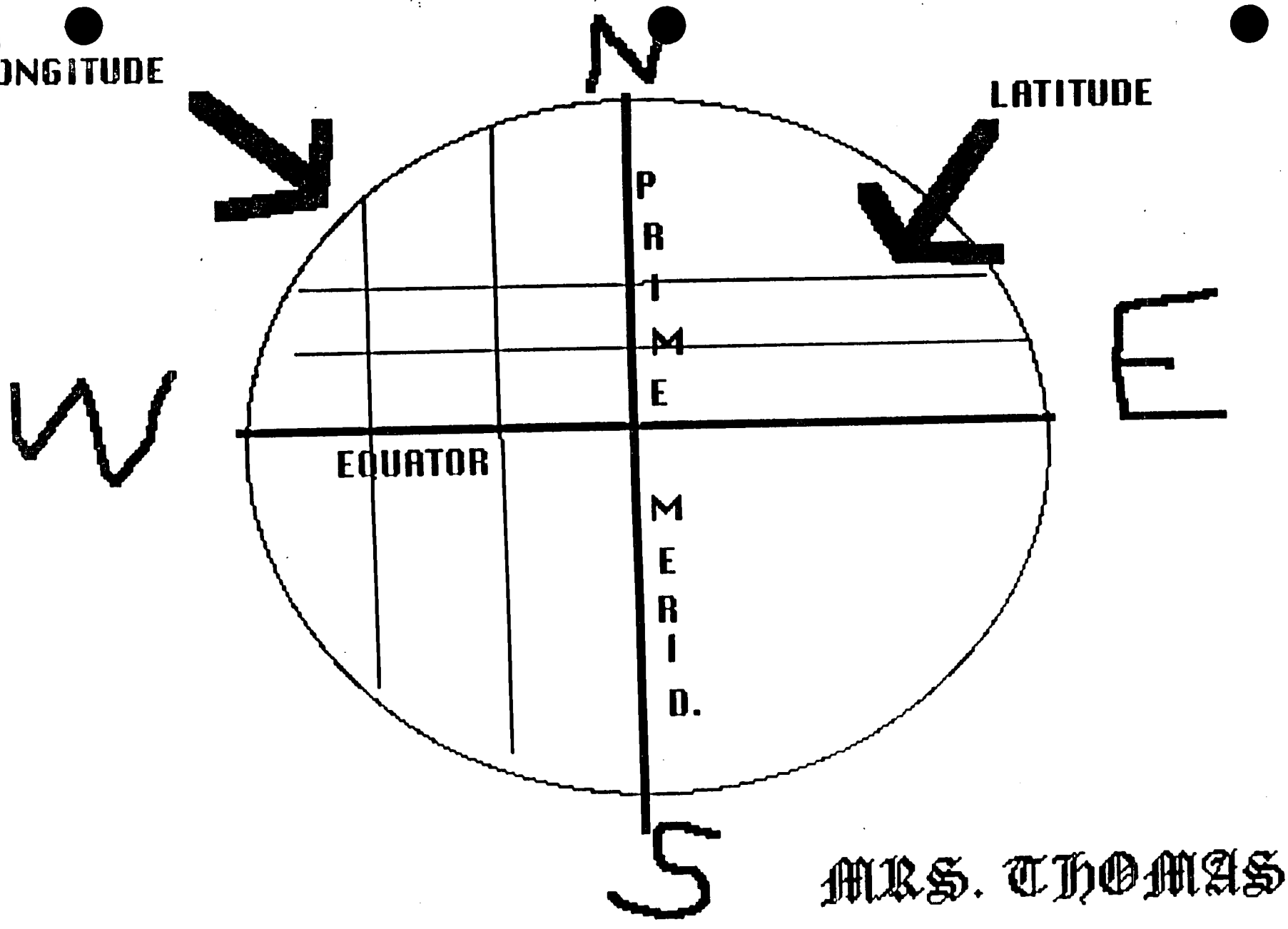
*draw a globe with the cardinal directions, lines of latitude and longitude

*flowchart of the branches of government

*create a timeline for a country's history

*ABC book of your town

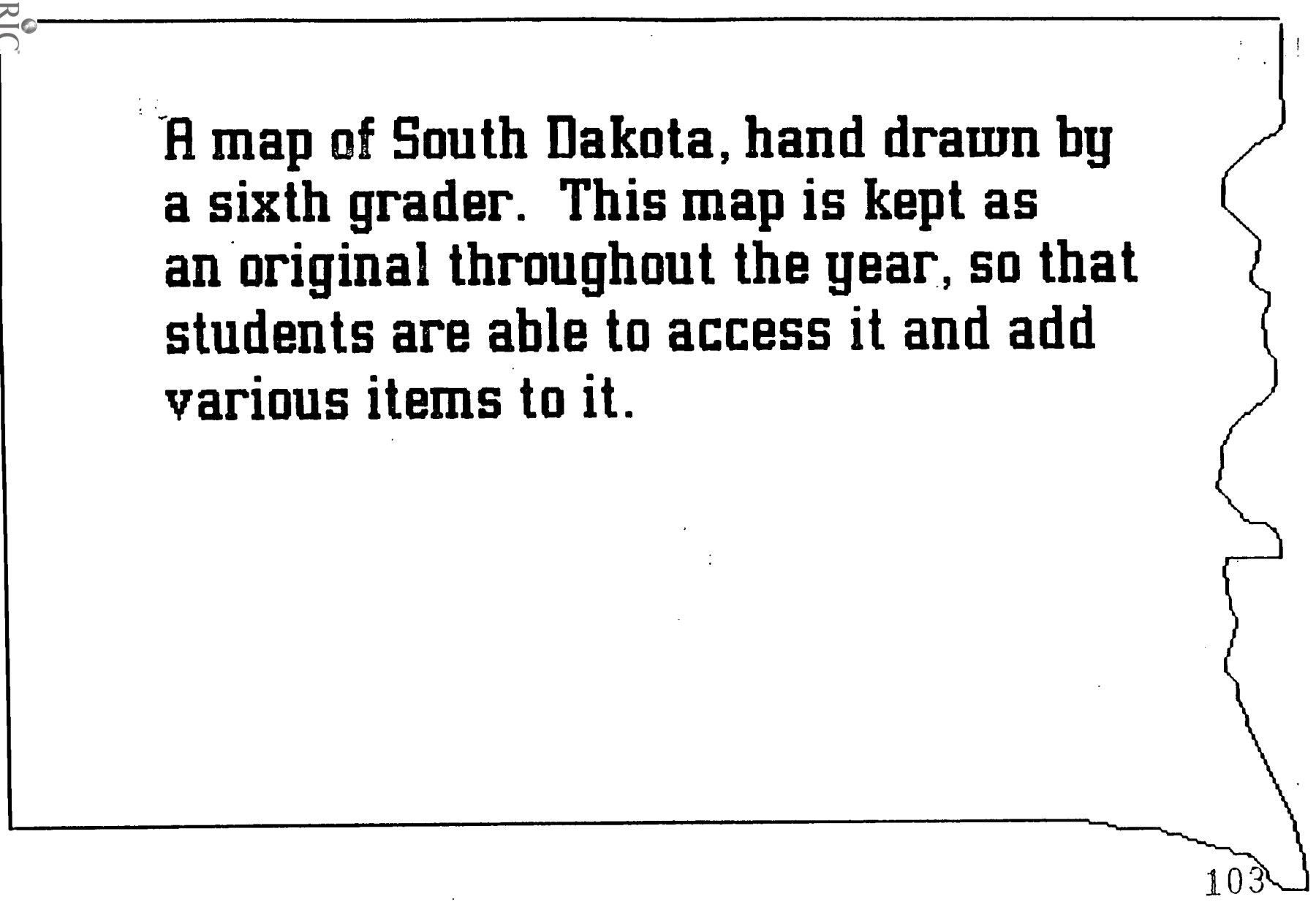
*vocabulary definitions

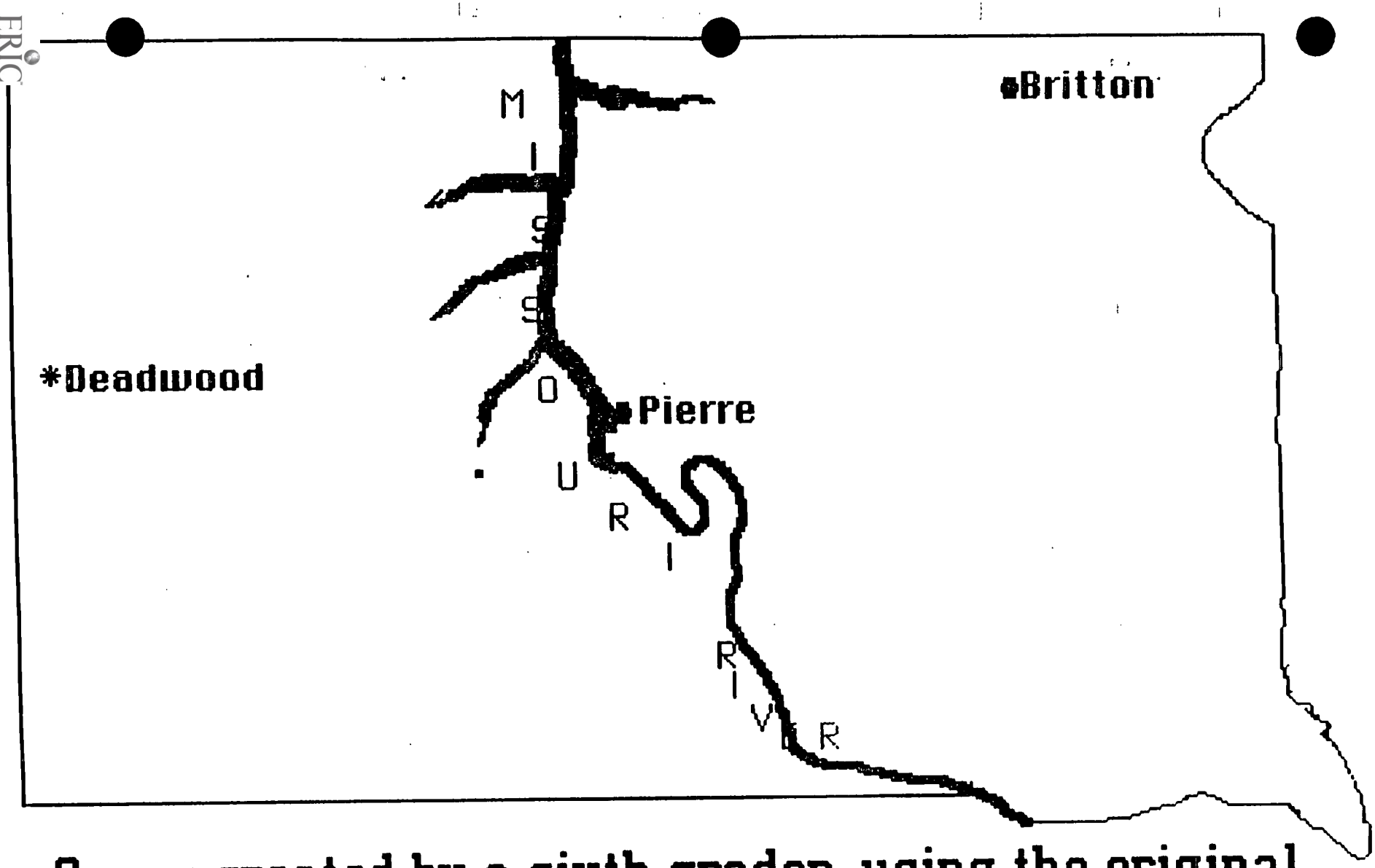


MRS. THOMAS

6/15

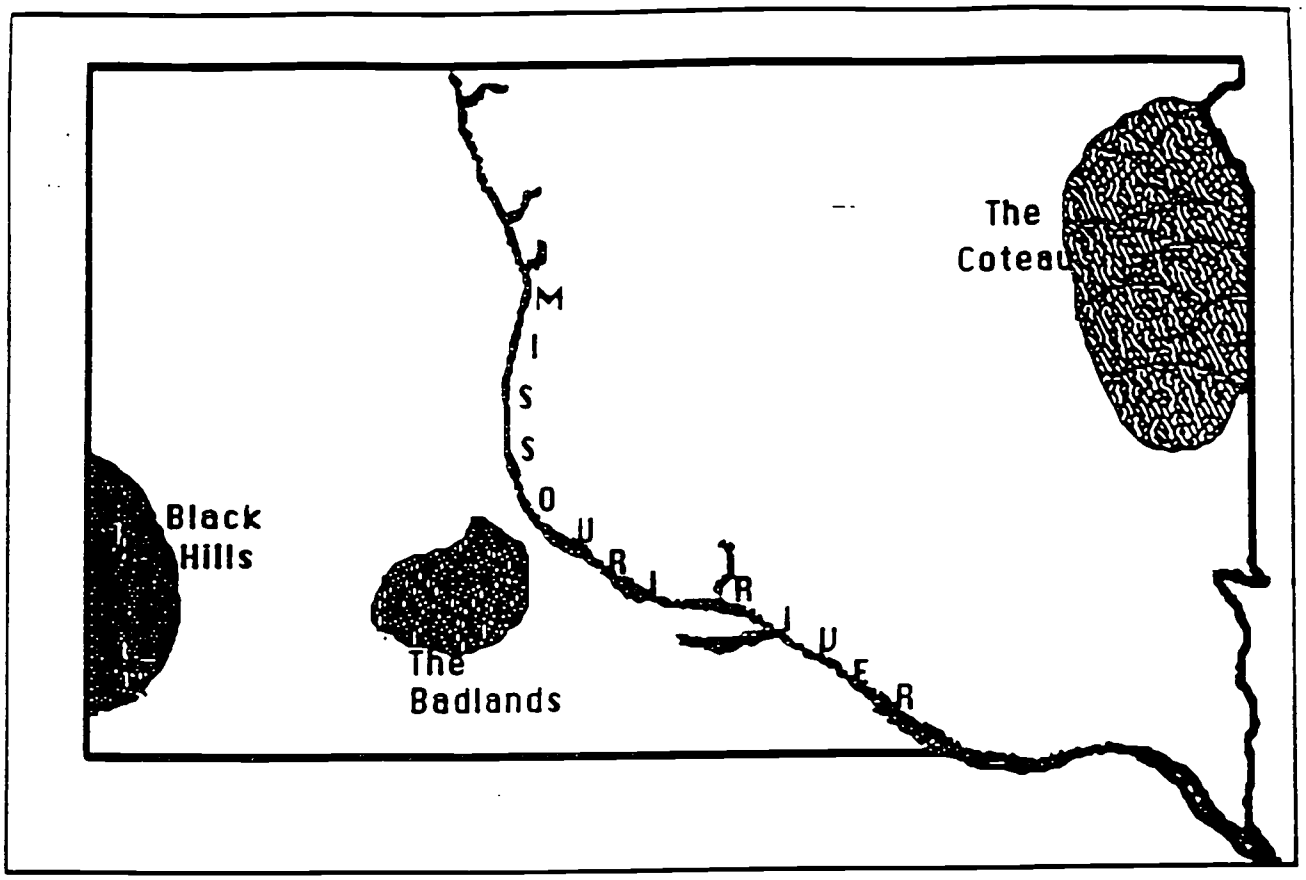
A map of South Dakota, hand drawn by a sixth grader. This map is kept as an original throughout the year, so that students are able to access it and add various items to it.

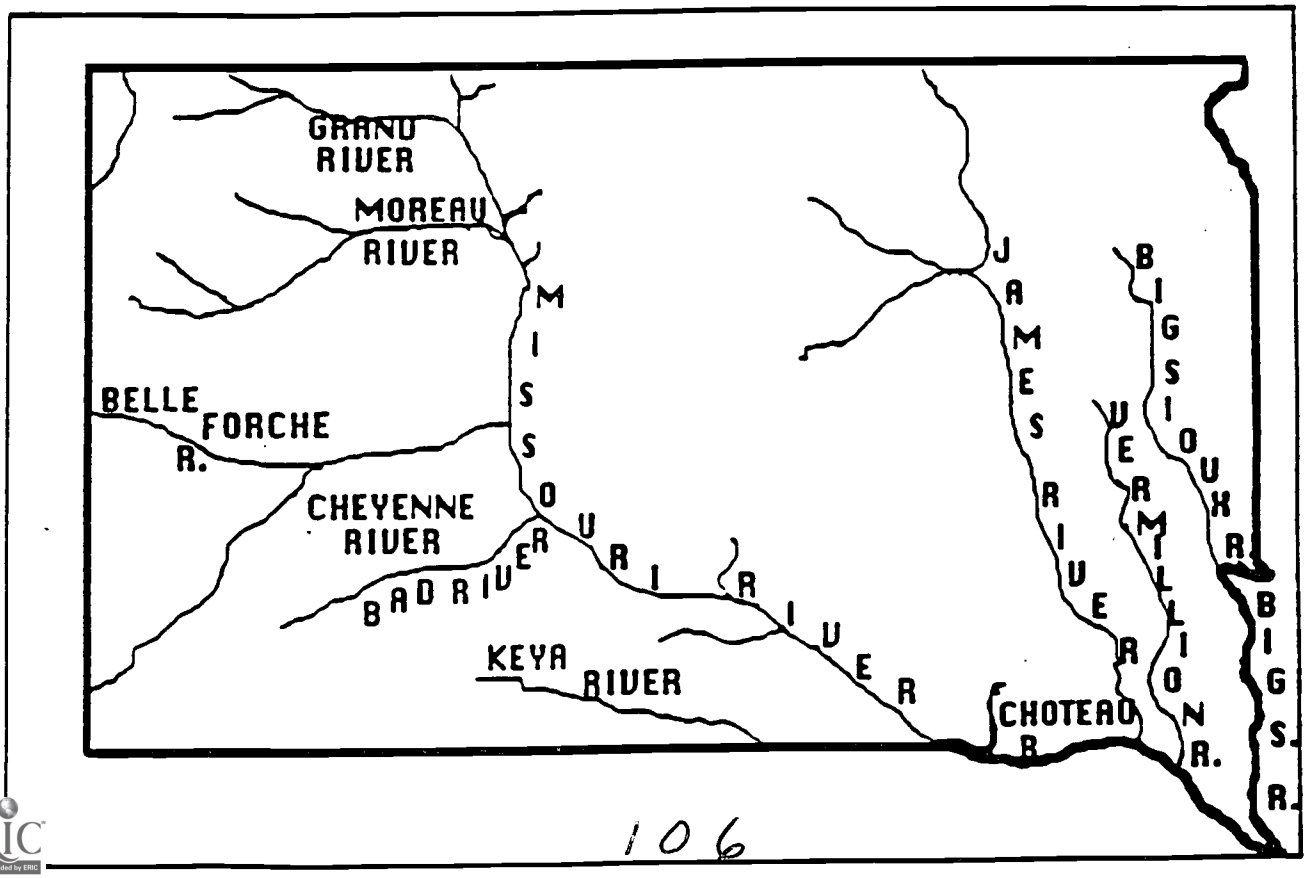




A map created by a sixth grader, using the original SD map.

6th


The Coteau
MISSOURI RIVER
Black Hills
The Badlands


GRAND RIVER
MOREAU RIVER
MISSOURI RIVER
BELLE FORCHE R.
CHEYENNE RIVER
BAD RIVER
KEYA RIVER
JAMES RIVER
BIG SIOUX R.
VERMILLION R.
CHOTEAU R.
BIG S. R.

English Ideas:

*poetry - each student is responsible for one line of the poem - teacher picks a topic

*using Kid Pix - Draw Me activities, students circle a specific part of speech in the sentence and then draw the picture

*Classroom journal - at the end of each day, or once a week, a student makes an entry about what happened that day

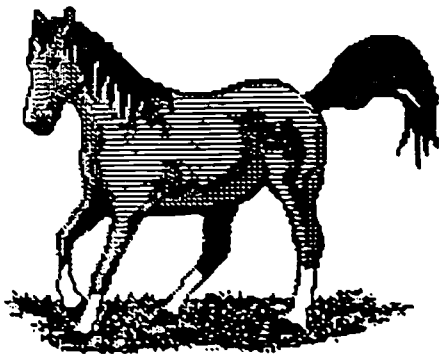
*using a prepared paragraph, students go through and locate parts of speech - underline, bold or shadow them

*students type up sentences and replace words using a thesaurus

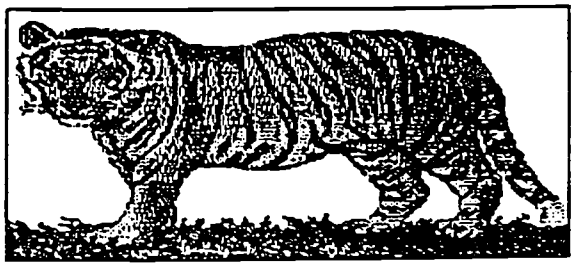
Family Poem

My family is like wild animals that roar the land.
Mom's a lion running around the house.
Dad's like a horse strong as can be .
My sister 's like coyote howling at me.
My oldest brother is a pig messy as can be.
My littlest brother is a cat perfect as can be.
And where does that leave me?
I guess I am a gorilla stronger as can be.

MY LITTLEST BROTHER



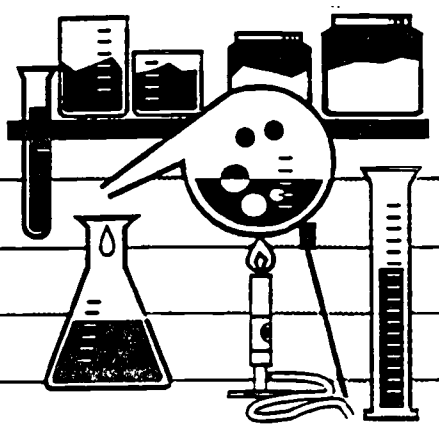
MY DAD



MY MOM

MY BROTHER

Science Ideas:



*illustrate the layers of the earth's atmosphere - label and describe

*create different cloud types and label

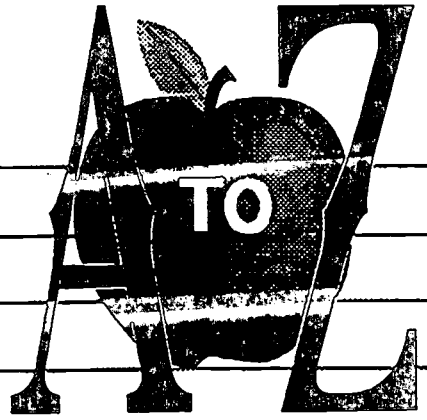
*animal families - students create a fictitious animal and then show what they know by classifying the animal, tell about it's diet, sleeping habits, etc.

*draw a food pyramid

*draw a diagram of a tooth

*use the computer to create information for science projects

Spelling Ideas:



*students can type up their spelling words and add a graphic

*students can use their spelling words in a sentence and shadow the spelling words

*use the spelling words to write a creative story using all of the spelling words

*write definitions for spelling words

*draw a picture to go with your spelling words or paste one graphic for each spelling word

Spelling

Casie Hawkinson 5

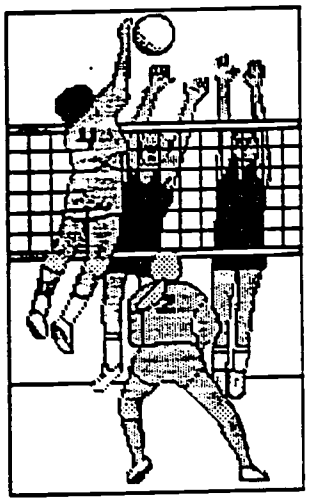
Week 21

1. My dad plants pioneer corn in his fields.
2. Mom, why do you always use sponges?
3. Mandy, are you going to get a leather jacket?
4. Some road workers pave the road.
5. Allison had a piano lesson today.
6. Jacquelyn started liking Jeff last month.
7. Jeremy was bad so he had to sit in the corner.
8. Dani you have to disobey Michael.
9. Who will bomb are house I wonder?
10. In first grade we used beans for math.
11. Will you finish your paper today?
12. Danny can have half of my candy.
13. The snow from the avalanche hindered the people.
14. Do you want to drain the blueberries?

SPELLING

Kalissa Wade 17.
October 15, 1996

1. I went to visit my aunt.
2. My dear Mom is pretty.
3. I will work for you.
4. I will see you tonight.
5. I went far away last night.



Public Britton School

Technology Usage and Access Plan

INTERNET ACCESS INFORMATION

for

Parents, Students, and Faculty

Britton Public School

Please read the following terms and conditions for use of Internet carefully before signing this document. This document is intended to be binding upon those signing.

Internet access is now available to students and teachers within the Britton School District. We are very pleased to bring this access to Britton and believe the Internet offers vast, diverse, and unique resources to both students and teachers. Our goal in providing this service to teachers and students is to promote educational excellence in Britton Public School by facilitating resource sharing, innovation, and communication.

The Internet is an electronic highway connecting thousands of computers all over the world and millions of individual subscribers. Students and teachers have access to:

1. electronic mail communication with people all over the world
2. information and news
3. public domain and shareware of all types
4. discussion groups on a vast range of topics
5. access to many university catalogs

With access to computers and people all over the world also comes availability of material that may not be considered to be of educational value in the context of the school setting. Britton Public School has taken available precautions to restrict access to controversial materials. However, on a global network it is impossible to control all materials and an industrious user may discover controversial information. We firmly believe that the valuable information and interaction available on this worldwide network far outweighs the possibility that users may procure material that is not consistent with our educational goals.

Internet access is coordinated through a complex association of government agencies and regional and state networks. In addition, the smooth operation of the network relies upon the proper conduct of the end users who must adhere to strict guidelines. These guidelines are provided here so that you are aware of the reponsibilities you are about to acquire. In general, this requires efficient, ethical, and legal utilization of the network resources. If a Britton Public School user violates any of these provisions, his or her access will be terminated and future access could possibly be denied. The signature(s) at the end of this document is (are) legally binding and indicates the party(ies) who signed has (have) read the terms and conditions carefully and understand(s) their significance.

BRITTON SCHOOL DISTRICT
INTERNET
ACCEPTABLE USE POLICY
(Terms and Conditions)

1. **Acceptable User:** The purpose of NSFNET, which is the backbone to the Internet, s to support research and education in and among academic institutions in the U. S. by providing access to unique resources, and education in, and opportunity for collaborative work. School use must be in support of education and research and consistent with educational objectives. Use of other organization's network and computing resources must comply with the rules appropriate for that network. Transmissions of any material in violation of any U. S. or state regulation is prohibited. This includes, but is not limited to, copyrighted material, threatening or obscene material, or material protected by trade secret. Use of product advertisement or political lobbying is also prohibited. Use for commercial activities is generally not acceptable.

2. **Privileges:** The use of the internet is a privilege, not a right, and inappropriate use will result in a cancellation of those privileges. Each student who receives access will participate in a discussion with a Britton Public School faculty member pertaining to the proper use of the network. The system administrator and teachers will deem what is inappropriate use and their decision is final. The district may deny, revoke, or suspend specific user access.

3. **Netiquette:** You are expected to abide by the general accepted rules of network etiquette These include, but are not limited to, the following:

   a. Be polite. Your messages should not be abusive to others.

   b. User appropriate language. Do not swear, use vulgarities, or any other language deemed inappropriate.

   c. Do not reveal your personal address or phone number. Do not reveal the personal addresses and/or phone numbers of fellow students or colleagues.

   d. Illegal activities are strictly forbidden.

   e. Note that electronic mail (e-mail) is not guaranteed to be private. People who operate the system have access to all mail. Messages relating to or in support of illegal activities may be reported to the authorities.

   f. Do not use the network in any way that you would disrupt network services for other users.

   g. All communications and information acccessible via the network should be assumed to be private property.

4. **Software:** Software cannot be downloaded from the Internet without written permission from network administrator.

5. **Non-Liability:** Britton Public School make no warranties of any kind, whether expressed or implied, for the service it is providing. Britton Public School will not be responsible for any damages suffered. This includes loss of data resulting from delays, nondeliveries, misdeliveries, or service interruptions caused by negligence, errors or omissions. Use of any information obtained via Britton Public School is at the user's own risk. Britton Public School is not responsible for the accuracy or quality of information obtained.

6. **Security:** Security on any computer system is a high priority, especially when the system involves many users. If you feel you can identify a security problem on Internet, you must notify a teacher who will in turn notify a system administrator. Do not use another individual's account without written permission from that individual. Attempts to login to Internet as a system administrator will result in cancellation of user privileges. Any user identified as a security risk or having a history of problems with other computer systems may be denied access to Internet.

7. **Vandalism:** Vandalism will result in cancellation of privileges. Vandalism is defined as any malicious attempt to harm or destroy hardware, data of another user, Internet, or any agencies or other networks that are connected to the NSFNET Internet backbone. This includes, but is not limited to, the uploading or creation of computer viruses.

8. **Exception of Terms and Conditions:** All terms and conditions as stated in this document are applicable to Britton Public School, in addition to NSFNET. These terms and conditions reflect the entire agreement of the parties and supersedes all prior oral or written agreements and understandings of the parties.

Thompson, John, W. "Internet:Terms and Conditions." Tulsa Public Schools. 1 of 4. (On-line) Available http://www.tulsa.k12.ok.us/tech/netpolcy.txt

Adopted: 11/11/96

BRITTON SCHOOL DISTRICT
INTERNET
USER APPLICATION

User's Full Name (please print): _____

Home Address: _____

Home Phone: _____

I am a(n) _____ Administrator _____ Teacher _____ Staff

Britton Public School student _____ I will graduate in _____

I understand and will abide by the terms and conditions for Internet access. I further understand that any violation of the regulations is unethical and may constitute a criminal offense. Should I commit any violation, my access privileges may be revoked, school disciplinary and/or appropriate legal action may be taken.

User Signature: _____ Date: ____/____/____

Parent or Guardian (If you are under the age of 18, a parent or guardian must also read and sign this agreement).

As a parent or guardian of this student, I have read the terms and Condition for Internet access. I understand that this access is designed for educational purposes and that the Britton Public School has taken available precautions to eliminate controversial material. However, I also recognize it is impossible for the Britton Public School to restrict access to all controversial materials and I will not hold the Britton Public School responsible for materials acquired on the network. Further, I accept full responsibility if and when my child's use is not in a school setting. I hereby give my permission to grant access for my child and certify that the information on this form is correct.

Parent or Guardian (please print): _____

Signature: _____ Date: ____/____/____

Sponsor (must be signed if the applicant is a student).

As the sponsor of this student, I have read the terms and conditions for the Internet access. I agree to instruct the student on acceptable use of the network and proper network etiquette. However, since the student may use the network for individual work or in the context of another class, I cannot be held responsible for the student's use of the network.

Sponsor's Name (please print): _____

Sponsor's Signature: _____ Date: ____/____/____

Adopted: 11/11/96

The following shall be used as the Software Requisition Procedure.

Steps to follow:

A. Teacher selection of software.
B. Subject area teachers review and discuss selection(s).
C. Complete and submit the form below.
D. Technology committee will review software.
E. Review by building principal.

==========

Teacher(s) Requesting Software: _____

What classes will be using the software?

How many students will be using the software (roughly)? _____

Name of Software Program: _____

Company supplying program: _____
_____
_____
_____

ISBN # _____
Number of copies needed: _____
Cost: _____
Do you need a single copy(ies) or a network copy? _____

Description of Software Program:

Explain how software program will fit into curriculum: (Use back if necessary)

Software Used at Britton High School

Adobe PhotoDeluxe 1.0 ---------- Multimedia Class
Apple-Quick Take Camera 1.5
Digital Morph 1.1a
HyperStudio for Windows 1.0.5

Dangerous Creatures ---------- Biology
3D Body 4.0
SimLife 4.00

Maps & Facts 1.0 ---------- Social Studies
Decisions & Choices 1.01
Encarta '95
Grolier 7.0 CD
Ancient Lands CD

Altamira Composer SE 1.01 ---------- All
Windows '95
Netscape Navigator 3.0
Microsoft Point '95
Quick Time for Windows 2.11
Print Shop Deluxe CD
Microsoft Works 3.0
McAfee Virus Scan '95
Desk Gallery (graphics) CD

Smart Pulley Timer ---------- Physics

Structured Basic ---------- Programming
Qbasic (Microsoft DOS)

Cake Walk 4.01 ---------- Music
Vivace Systems 4.0
Band in a Box 6.0

PageMaker 5.0 ---------- Journalism/Yearbook
TypeTwister 1.0
First Page Temp.
Second Page Temp.
Lunch Box CD

Microsoft Art Gallery CD ---------- Art
Monet Verlaine Debussy CD
Matisse Aragon Prokofiev

MicroPace Plus ---------- Business/Intro. to Computers
Connect Online (Info-Bridge)
Automated Accounting 6th Edition
(textbook/CD-ROM/Automated bundle package)
Microsoft Works
All-Star Sports (Automated Simulation)
Microsoft Office 7.0

BRITTON MUSIC DEPARTMENT

BRITTON PUBLIC SCHOOLS

MIKE LIKNESS-BAND DIRECTOR

INFORMATION REQUESTED AT T.I.E. AUDIT
9-24-96

TECHNOLOGY USED IN THE MUSIC AREA

The Music department has MIDI capability. We use Cakewalk Pro Audio software for sequencing. We have a Roland MPU 401 sound module with a MIDI interface and use a Casio keyboard for a controller. We currently run this through a 30286 IBM. but will be switching to the Compaqs when they are all installed and networked. We also utilize Band In A Box software which allows students to compose and sequence simple melodies and tunes. We also use have the All State Band and Orchestra terms on disk. Students are able to study these terms at their own pace and then be tested. Test results are automatically recorded.

We will be setting up the Vivace Intelligent Accompaniment System shortly. We have the instrumental and vocal microphones needed to utilize this unit. The purchase of software for the Vivace system will be ongoing.

Instrumental music also uses Pyware Music Administrator for data base management such as: music library. uniforms. and fundraising . We can also manage other types of student information such as addresses. horn serial numbers. etc.

Elememtary music uses the following software for Mac: Early Music Skills. Musicus. Adventures in Musicland. Clef notes. Note Speller. Jam Session. and Music Flashcards

Isabel School District

Isabel, South Dakota

Planning Grant Summary
and
Technology Plan

developed by the
Goals 2000 Planning Grant Committee
1997

The Isabel School District would like to thank the following individuals for their many hours of time volunteered during our Goals 2000 Planning Year. Without your patience, insight, dedication, and energy, this Technology Plan would not be possible.

Thank you all!

Charles Begeman, CEO
LuAnn Lindskov
Gerry Aberle
Mary Dorsey
Lee Monnens
Helen Brinkman
Frances Rollason
Maggie Austin
William Scholl
Pam Locken
David Rollason, PA-C
Karma Nash
Rocky Peterson
Nancy Thiel
Richie Hutchinson
The TIE staff

Isabel School Goals 2000 Summary Report

Overview of process and important findings

- The school's purpose and its core values — Page 2
- The planning process used by the goals 2000 committee — Page 3
- Summary of findings from the planning process
  - The community — Page 3
  - The school
    - Strengths — Page 5
    - Weaknesses — Page 7
  - Potential threats — Page 9
  - Our "customers" and what they expect from us? — Page 10
  - Vision development — Page 12
  - Overview of the technology plan — Page 13

The Technology Plans.

- Technology in the Classroom — Page 17
- Teacher Training — Page 19
- Teacher Technology and Resource Center — Page 21
- Policies for Evaluating Hardware/Software — Page 22
- Regional Library — Page 23
- Library as an Educational Resource — Page 24
- Community College — Page 25
- Internet Service Provider — Page 27
- School to Work — Page 29
- Career Learning Curriculum — Page 31
- Individualized Education Plans/Multi-Aged Clustering
  - IEP Standards Based Curriculum — Page 33
  - IEP/Multi-age Teacher Training — Page 34
- Parenting/Life skills Curriculum — Page 35
- Summer Title I Enrichment Program. — Page 36

Attachments to summary report for internal use only

- Environmental Analysis — Page 37
- Customer expectations – each other, the school — Page 40
- Gaps analysis summaries — Page 44
- Hardware Inventory Listing — Page 50

School Purpose:

The purpose of the Isabel School is to offer community members the resources that enable each individual to become a productive, self-fulfilled citizen who is a contributing member of society.

The School's Most Important Values:

- The school will offer the highest quality education providing learning experiences to develop the abilities of each individual.
- The school will provide a safe and healthy environment.
- The school will be guided by proactive, sound fiscal management.
- The school will always team with the community and parents.
- The school will hold the highest academic and ethical expectations of every individual including honesty and respect of, and for every individual in the school community.

The Goals 2000 Planning Process

A group composed of community members, teachers and school administrators met to discuss technology planning during the Summer of 1996, prior to the receipt of the Goals 2000 planning grant. Once the funding was obtained the original group was expanded and an organized planning process was begun.

Members of the planning group included

The Chief Executive Officer
HS Science/Math Teacher
HS English/Business Teacher
Junior High Teacher
The 2nd Grade Teacher
The 1st Grade Teacher
The Librarian/Technology Coordinator/ Kindergarten teacher
Clinic Administrator
Hardware store owner (School board member)
Clinic Clinical Director
Bank Branch Manager
Farmer/Rancher
Publisher / Graphics Designer
HS student (Student Council Pres.)
Technology and Innovations in Education Consultant

The planning group meetings were usually held weekly, and conducted primarily after-hours. Early in the process the team members decided that they would not seek compensation for the time they donated to the process. The 8-month long Technology Plan development process included the following steps.

- Environmental ("SWOT") analysis that included separate surveys sent to graduates, parents, teachers, and businesses.
- Identification of customers and their expectations
- Scenario development
- Gap analysis
- Strategic plan development

Some of the working documents of the planning group are included in the attachment section for reference by the school board and future workgroups. The major themes and conclusions developed by the team follow.

The Community, and the School

The community

Isabel is a town of 330 people located in a geographically remote portion of northwestern South Dakota bordering both the Cheyenne River Sioux Tribe and the Standing Rock Sioux Tribe Reservations. It is populated primarily by the descendents of European settlers who immigrated to this area in the early 1900s. The population density in this area surrounding Isabel averages 2 persons per square mile.

About 40% of the community had incomes below the poverty level in 1990. This statistic impacts the ability of the local economy to fund technology development in the school. Some families have computers at home, many don't and never will because of their poverty. This fact threatens to create two tiers of students, and defines a crucial role that the public school system must play in bringing equitable technology and education to the community.

The major business within the area is farming and ranching, although the school, retail trades, banking, city government, and trucking play important roles. The school is the largest local employer. There is no manufacturing. The town's primary businesses include an automobile dealership, a bank, a federally supported Community Health Center, a newspaper, a candle shop, two gas stations, a cafe, a small grocery and a hardware store. The automotive dealership currently utilizes satellite and digital technology to place orders and obtain technical training for its staff. The clinic uses both teleradiology and telemedicine technologies to shorten the 130-mile distance to Tertiary medical care in Bismarck. N.D. The bank uses a leased communication line to link with a network at its home branch 20 miles away in Timber Lake, SD.

Despite these capabilities, there is growing uneasiness in the general population about a growing technology gap that has arisen from our rurality. The skills that were the basis of business, college and life preparation a decade ago are no longer sufficient for the complex wave of technology that is breaking upon us. This places local businesses farther and farther from the center of the business mainstream, making it increasingly more difficult to compete and make a living.

The community historically has relied heavily on the school and its teachers to provide solutions to a wide variety of real-world problems. Two libraries serve as the main educational reference sources. The school library is normally open only during the school day during the part of the year when school is in session. The local branch of the county library is open year-round, but only for 8 hours a week, making it relatively unavailable to working individuals.

Unlike many of the surrounding communities who must pay long distance charges, moderate cost, local-access Internet connections became available to this community through the Phone Company in 1995. The lack of local access in those communities may provide an opportunity for the school in the future.

The community offers no opportunities for college-level liberal arts education and there are few local opportunities for adults to upgrade vocational skills and concepts. For example, electronic stores that allow millions of customers from around the world to browse through online catalogs and place orders are appearing on the Internet at an astonishing pace. The lack of continuing business and vocational education threatens to leave many local businesspersons unable to compete with these global vendors. These adults expect the school to provide a method so that they can learn about computers and other emerging technologies.

A few community members teach in a community college that is located 50 miles from Isabel. Its class offerings are quite limited. Because of distances to higher education facilities and the lack of a satellite connection or other distance-learning connections, medical, educational and banking professionals normally leave the community to receive continuing education.

School system strengths

The Isabel School system is a self-contained Pre-K to12 with about 150 students, 14 teachers and a Chief Executive Officer, whose job merges the traditional principal and superintendent roles. The students are divided into elementary, junior high, and high school divisions. The Title 1 program funds both a pre-Kindergarten and a schoolwide computer-assisted instruction program developed by the Computer Curriculum Corporation.

Small class sizes and low teacher-pupil ratios encourage individualized and personalized attention in a caring environment. These improve the availability of teachers and school staff, and create unique opportunities for parents and school staff to team together to maximize student potential. This intimate relationship creates high standards and expectations for all students, and ensures that the school maintains the community's values. Students who would normally be left out in a bigger school are included in sports and other organized activities because of minimum team size requirements.

The effectiveness of this model is demonstrated by the fact that Isabel students consistently perform above state norms on standardized testing. 99% of the school's students graduate from high school, 58% go on to college and 20% enter vocational education programs. Large percentages (67%) of those who go on to obtain higher education graduate.

The past decade has witnessed a two-pronged educational emphasis within the school. In addition to teaching "the basics" there has also been a focus on problem solving and applications in math and science. As a result our students have rated highly in local National History Day, Science Fair, and Quiz Bowl competitions. Many of our students have participated in national and international competitions during the last decade.

Naturally, these accomplishments were achieved primarily because of the caliber of the teaching staff and their commitment to the school, students and community. There is a high level of commitment among the teachers. They enjoy sharing their interests, experience, and expertise with each other and their students. State and national accreditation standards drive a process that emphasizes and challenges the educational and administrative talents of each member of our school staff. In the last three years both the high school science and history teachers have received "State Teacher of the Year" awards.

This year the CEO received an award for technology leadership. He has been a driving force for the inclusion of technology in the school. The level of technology has leaped from adding-machines to individualized, computer-based learning despite a severely restricted budget and a limited tax base. He demonstrates an openness and commitment to school improvement through technology. He has nurtured the inclusion of technology in the classroom, and recognized the importance of training educators as part of the process.

Each classroom now has at least one computer, although about 40% are unable to run the current operating system. Keyboarding instruction begins in the lower

elementary grades. There is a 13-station state-of-the-art computer lab in the library. This lab, funded by Title I, offers computer-assisted math and reading instruction to all elementary and junior-high students daily. It is available for other purposes several class periods each day. There also is an aging 14-station computer lab in the high school.

The school has an active Teacher Assistance Team (TAT), comprised of the Special Education teacher, the guidance counselor, and teachers representing different levels of the school. The TAT team meets whenever any student in the school is experiencing unusual challenges in his or her educational program. Working with the child's classroom teacher and sometimes the parents, this team seeks to assist the student by finding ways to overcome any obstacles to learning he or she may be facing.

Another beneficial aspect of the size of the school is the relationship with the community. Not only is the school board comprised of local community members, but also there is constant communication between the school and the community at multiple levels. Many of the community professionals involved in technology share their experience and knowledge informally with the school.

The school maintains positive relationships with other schools through extra-curricular activities. Additionally, it benefits greatly from a relationship with the Northwest Area Schools cooperative.

The cooperative staffs eight vocational education vans that move from school to school. Semester-long courses offered include "Agriculture," "Health Occupations:" , "Metalworking," "Quantity Foods," "Electronics," "CAD-CAM," "Building Trades" and "Automotive Mechanics". Two of these courses are fulfill course requirements at Western VoTech, one of the state's vocational schools. The cooperative also coordinates Special Education and Early childhood enrichment programs, and offers regional in-service training to school systems. It sponsors an Elementary Spelling Contest, a high school Academic Olympics contest, the Science Fair competition, and the National History Day contest annually. During the past year it has developed a School to Work program that will be offered to participating schools next year. The proposed program appears to provide the scope and content of business-based learning that the technology group determined should be offered to our students during its planning process.

School System Weaknesses and the Needs They Create

While the size of the school and community has its advantages in terms of the personalization of education, it also creates problems. Small community size and limited enrollment constrain the school's budget. This limits the number of teachers that can be employed, the number of courses that can be offered, and the learning/technology resources that can be purchased for students and teachers. In order to meet state standards teachers are responsible for many different teaching assignments, with little formal "prep time". They are also expected to provide supervision of extracurricular activities, be active in the Parent Teacher Organization, and also serve on committees and workgroups within the school. This leaves little time for joint planning and curriculum development. The planning committee believes that an infusion of technology and training will help teachers better meet these demands.

In most cases teachers must leave the community to obtain continuing education or to learn about technology and how to incorporate it into the curriculum they teach. Similarly, because of the lack of a formal affiliation with a college or university, "advanced placement" college courses are not available to high school students. The planning committee believes that the way to address this weakness is to build long distance learning facilities and to develop an affiliation with one or more colleges. Students, teachers, and the community as a whole will benefit from the virtual classroom that these links will provide.

Hardware and software availability and age varies widely from classroom to classroom. Only a few teachers are currently equipped with the knowledge and software tools they need to prepare multimedia coursework for their classes. Some of the computers in the high school lab can no longer run the current version of the operating system, while others do not have multimedia capabilities. In addition to installing a network and technology workstations in each classroom, the planning committee believes that a technology-skills curriculum for teachers needs to be created. Additionally a method for the evaluation, purchase and replacement of software and hardware in the classroom needs to be developed.

While several of the high school classrooms have phone lines, these essential links to the electronic universe are not generally available. Because of this only a few teachers can spontaneously interrupt their class to demonstrate a concept using a web-based resource, and the librarian usually cannot use this resource to assist students until after school hours. This limits Internet access. The lack of a school-wide computer network hinders the sharing of educational resources within the school. The planning committee believes that several components will be required to make the Internet and other shared resources available to every student. Technology workstations need to be installed in each classroom and connected to the library and the Internet through a local area network. The job description of the librarian will need to be expanded to include Internet reference person and technology consultant for teachers and students.

Teacher competence in technology varies greatly throughout the school because of budget limitations, and the variable availability of hardware, software and training. Recognizing the key role that teacher familiarity plays in technology

integration, the committee has recommended that a teacher curriculum containing a core set of competencies and methods for evaluating achievement should be developed early. This should be coupled with a method for delivering personalized, problem-based instruction to teachers in a fashion that optimizes teacher's strengths. The committee was in agreement that this weakness must be addressed quickly. Without teacher expertise in the technologies they use, they cannot effectively utilize them or teach them to our youth.

The process of "inclusion" within classrooms forces teachers to spend more time with children who are behind. This focus tends to emphasize a minimal level of achievement, and rarely challenges students to achieve their potential. The challenge is how to meet the diversified learning needs of students of widely varying levels of ability. Because of the limited amount of time that our small staff has, the planning committee believes that the only way to maximize student achievement is through a comprehensive, competency – based curriculum that is directed and monitored and optimized by technology.

Because of the limited number of businesses that the community hosts, most students have a limited exposure to the large variety of occupations and work settings that are found in larger communities. How does a student learn about manufacturing if there is none in the community? Similarly, because of graduation and other accreditation requirements, only a limited amount of "life-skills" education addressing "real-world" topics such as parenting and keeping a checkbook is currently provided. The planning committee believes that these weaknesses can be addressed through a systematic "Careers Curriculum" which exposes students to vocational prerequisites, training, or income potential. The "real-world" needs can be addressed through involvement in the Northwest Area Schools School to Work program, and through the development of a "lifeskills" curriculum.

Finally, the school closes during the summer. There are no organized opportunities for children who have fallen behind to catch up, which results in an even greater loss of academic skills than occurs with ordinary students over the course of the summer. Additionally, children have few opportunities to learn in a non-graded environment "after hours" where they can learn for the sake of learning alone, thereby developing life-long learning habits. The planning committee believes that a technology rich summer program should be developed to address this need.

Threats to the School System

School Plans for the future must consider the following threats that were expressed in the surveys and by planning group members:

- School enrollment is decreasing. This is the result of multiple factors, including the aging of the population, the increasing popularity of home schooling, "Tribal jurisdiction" over businesses and non-Indian reservation residents, and the potential of unfavorable "open enrollment" decisions. The planning committee believes that the best method to address the threat is by enhancing the school's excellent educational program with technology in order to create a "magnet" that will draw families and businesses to the community. Furthermore, it needs to build partnerships with all local and regional governments.
- The tax base is agriculturally dependent and shrinking. 50% of the land in the county is in trust, making it exempt from taxation. State funding formulas are subject to change. All of these may affect the community's capacity to shoulder increasing school costs. The planning committee believes that the best method to address this threat is by using technology to generate new income for the school. For example, the school could provide the equipment and expertise that would allow other communities to "plug into" the Internet.
- State and federal mandates and the costs of maintenance, repair and supplies for the aging school will consume increasing amounts of resources. We need to seek other funding sources and develop self-sufficient ways to shoulder the load of these rising costs. Opportunities to serve as "Beta sites" for software developers and other alternate income sources should be sought. For example, the school could set up electronic "shops" on the Internet where local businesses could sell their products to customers around the world in exchange for "rent". In addition to income, the shops would offer students and teachers training in how to set up and maintain these shops, and provide hands-on experience with a variety of contemporary business processes.
- An overemphasis on technology may interfere with teaching "the basics". Conversely, our enrollment may suffer if we fail to provide a technology environment that is at least comparable to area schools. The planning committee believes that the best method for addressing this threat is through the development of a comprehensive curriculum that incorporates technology, Internet and distance learning.
- Income levels vary widely in the community, and the potential and capabilities of students vary widely. The threat is that the wealthy students will accomplish more because of personal access to technology at home. We believe that the school must maintain its current caliber and quality of education for all children, especially children with exceptional needs. We believe that the best method to address this threat is to provide all members of the community with access to technology.

The School's Customers and Their Expectations

To be successful in the future the school must anticipate, meet and even exceed the expectations of its "customers" -students, parents, teachers, and businesses. The expectation summaries developed by the planning group can be found on page 40. Expectations are powerful determinants of human choices and judgements. Common themes can be identified.

The school is expected to

- Provide an environment that is physically and psychologically safe for the student, employee and community.

- Help the community to overcome the technology dichotomy created by poverty by providing access to computers, software and the Internet to everyone.

- Meet contemporary standards for teaching and learning by delivering the same quality of technology, equipment, and teachers found in any school in America today. Provide teachers with the resources, technology, training and support they need.

- Deliver instruction that is educationally sound, comprehensive in scope, and adequately prepares children regardless of whether they enter the workforce directly, or go on to vocational school or college.

- Develop and periodically review and revise the curriculum to ensure that our children will be well prepared for the changing world of the future. The curriculum should be delivered in a fashion that nurtures life-long learning skills.

- Ensure that every student is self-assured and excels to their capacity. Since we cannot predict the future or an individual's role in it, the only way we can prepare students (of any age) is by teaching them how to learn. We can do this by emphasizing problem-based learning activities such as Science Fair and History Day projects that integrate communication and problem-solving skills, and by providing exposure to a wide range of subject areas.

- Provide students who work during the school years and those who enter the workforce immediately after graduation with the business skills they need to become productive members of society. These skills include a working knowledge of business processes and concepts.

- Develop ongoing relationships with vocational training programs, colleges, employers and graduates and modify the curriculum as necessary to ensure that students learn "what they need to know" for college, vocational school, business, and life. Provide children with vocational guidance and teach them about the myriad of job opportunities available in the wider work world.

- Model the community's values. Every administrator, staff member, parent, and student is expected to treat every other individual with fairness, honesty and respect.

- Assist the entire community to solve problems and find answers. Make the school's technology resources more available to the community as a whole, and ensure that the library continues to provide the reference resources necessary to continue the school's prominent position in Science Fairs and National History Day competitions.

- Provide area teachers, businesses and students with local opportunities for post-high school and business education. Farmers, ranchers, teachers and other businesspersons must be fluent in new and old technologies pertinent to their areas of production to remain competitive. The school must fill this knowledge and learning gap.

- Keep pace with the technology improvements in a fiscally responsible fashion. Because it does not appear probable that public funding for schools will increase substantially, the school must investigate alternate methods of revenue and funding.

- Develop a love of learning in all students, and provide additional assistance to those who drop behind. Create a partnership between each student, their parents, and teachers to ensure that the student's learning is coordinated, and continues at home.

Vision and Strategic Plan Development

After exploring the school environment and defining its customers and their expectations, the planning group completed a "scenarios" exercise. Each member was asked to describe his or her own future vision of the school. There were many common themes. These were consolidated and then the group performed a "gaps analysis".

This process consisted of evaluating what resources (staff, equipment, information, planning) would be required to transform the school to the combined vision of the future. Summaries of the gap analyses are included on page 44, both to provide insight into the planning process, and to give future planning groups starting points.

The gaps analysis was used to develop the strategic plan that is summarized below, and included in detail beginning on page 17. One of the important assumptions is that a coordinated, technology rich educational program will attract children, adults and businesses to our area. To achieve this goal we will need to develop a comprehensive curriculum that emphasizes competency-based, problem-solving skills.

Technology usage is a fundamental and integral part to each of the teaching/learning components in our Technology plan. Plan components include the following:

- Technology Centers in Classrooms, including Teacher Training
- A Teacher Multimedia Resource / Preparation/ Research Room.
- A Regional Library / Reference / Educational Resource Center
- A Community College
- An Internet Service Provider and Virtual Business Mall
- A School to Work program
- A "Careers" Curriculum.
- Individualized Education Plans/ Multi-aged Classes for all students, including Standards-Based Curriculum Development and Teacher Training
- Parenting and Life skills Curriculum
- Summer Title I enrichment program.

Most of the plan components are comprised of a planning/feasibility phase, a building phase, and implementation phase. Many require curriculum development for child and adult learners.

Overview of the Technology Plan Components

A Technology center in every classroom (Page 17)

Technology in the school means nothing unless it is accessible and used to enhance the education of our youth. This component includes multimedia-rich workstations in each classroom, individualized technology learning plans for teachers, and an ongoing process for hardware / software acquisition and replacement. When this component is completed,

- Each classroom will have Multimedia workstations connected to the Internet, to shared resources (e.g. CD-ROM towers, videotape machines), to the library, and to other places within the school through a school-wide network.
- Each classroom will be connected to cable TV with closed-circuit capabilities.
- Teachers will be trained in the use of computers and other technologies to develop and present subject matter as an integral part of their lessons.
- Technology learning plans for teachers will be self-paced and individualized so that each teacher can achieve core competencies in the computer applications and other technologies he or she will need most.
- The hardware / software evaluation process will result in a comprehensive assessment and an impartial method for providing and replacing hardware and software throughout the school.

A teacher resource / preparation center (Page 21)

Teachers are in need of a work area in which they can learn about and develop multimedia presentations without being interrupted. They also need access to materials without having to vie with students for time and resources. They need the services of a trained person to assist them in locating appropriate educational resources and then incorporating them into effective presentations within the classroom. When this component is completed

- Teachers will have a private workroom equipped with computers, Internet, network connections, cable and closed circuit TV, and other technologies. The purpose is to provide
- A workspace for class preparation and materials development.
- A technology / media specialist to assist teachers by locating and acquiring educational resources located on the Internet, in libraries, books, videos, and CD-ROMs for use in daily lessons.
- A private conference room within the center for consultation among teachers, parents, students, and community members.

A regional library / reference center (page 23)
Currently, the community supports a resource-limited branch of the county library that is staffed by a senior citizen eight hours a week, and the school library that contains a variety of resources including a computer lab, and temporary computer connections to the Internet and the State's interlibrary loan system. When this component is completed

- The two libraries and their staffs will be combined into a larger, more modern, and accessible facility.
- Library resources will be available electronically from any room in the school.
- Any community member will be able to use the library, its computer lab, and its electronic reference resources year-round and after-hours.
- A "webrarian" familiar with the vast resources available through the Internet and from other technological resources will be available to give assistance.

A community college (page 25)
While a continuing education course is occasionally offered, a formal continuing education program is not available locally for teachers and there are no formal links with colleges or universities. Like teachers, health and other business professions normally have to leave the community to learn. Ironically a few people from this area teach in a community college 50 miles away, yet distances are still great and applicable course offerings limited. When this component is completed we will have

- Established a mutually beneficial relationship with a college or university
- Obtained the necessary digital /satellite technology to bring distance learning and video-conferencing capabilities to the school and the community.
- Made higher education and technology training conveniently accessible to members of the surrounding communities, due to our centralized location
- Offer student teachers opportunities to learn about teaching in rural South Dakota town
- Provide our teachers with access to the most recent advances in teaching
- Provide our high school students with the opportunity for Advanced Placement or dual credit courses through a college or university.
- Provide our teachers and school with opportunities to develop and market distance based educational courses and programs
- Provide our students with firsthand opportunities to learn to administer and maintain this digital/satellite and video-conferencing technology

An Internet Service Provider and virtual mall on the Internet (page 27)
One of the concerns that arose for the planning group was how to fund the technology advances it proposed in light of decreasing enrollment and a shrinking tax base. One solution is to create an income-producing business that would fund the improvements and to maintain ongoing infrastructure costs. When this component is completed the school will

- Obtain the necessary technological equipment and expertise to become an Internet Service Provider.
- Sell connections to the Internet to schools and communities within this region.

- Produce and edit web sites to be sold via the Internet.
- Rent electronic shops on the Internet where local and distant small-business owners can display and sell their products to the world.
- Market in-house produced and developed multimedia, educational programs over the Internet.
- Provide students with the opportunity to learn how to establish and maintain these Internet sites, developing a high-tech, marketable skill transferable to the business world after graduation.

A school to work program (page 29)
While sixty percent of our students go on to college, the remainder either go on to vocational school or directly enter the workforce. When this component is completed

- Students will have first-hand opportunities to learn about day-to-day business operations, skills and practices.
- The experiences will be curriculum-based with measurable outcomes defined by the businesses, vocational schools and the students themselves.
- Businesses will be recruited from a wide geographic area to provide students with exposure to occupations not present in the local community.

A Career Curriculum (page 31) One of the limitations of our small community is the limited exposure that our students receive to the universe of occupations and businesses available in larger communities. When this component is completed

- Students will be exposed to a systematic exploration of potential occupations.
- The curriculum will be both formal and informal.
- Structured career education will be provided regularly to students beginning in elementary school.
- Discussions about discipline-specific careers will be incorporated into English, Math, Science and Social Science courses.

Individualized education plans for each student (page 33)
Each student possesses a unique set of talents and capabilities. They learn in different ways and at different speeds. Our school contains exceptional students at both ends of the spectrum. Complicating things, if current trends continue our enrollment and presumably our staffing may shrink during the next decade. We look, in part, to this component of our plan to help us attract a wider educational clientele, increasing our school population. When this component is completed

- We will have developed a technology rich, comprehensive, standards -based curriculum in Language Arts, Communication and Technology skills, Math, Science, Social Science, and Fine Arts spanning the grades K through 12.
- Technology usage will be an integral part of all subject areas.
- Problem solving, applications, and fundamental concepts will drive the educational process to challenge each student to meet his or her potential.
- Teachers, parents, colleges, vocational programs and students will sit down on an annual basis to plot an educational course for each student.

- A computer program or other technology will simplify the process of creating plans and tracking individual progress.
- Like in the days of the one-room schoolhouse different-aged students with similar capabilities and interests will combine their knowledge to learn.

Life skills Curriculum (page 35)

While the math, reading and other "basics" of elementary school provides rudimentary skills that are used throughout life, we do not teach older students real-world, problem-solving skills such as writing a resume, balancing a checkbook and bringing up a family. When this component is completed

- We will have developed a life-skills curriculum that is designed to prepare the graduate to face the challenges of adult life.
- We will incorporate this curriculum into a high school course.
- The course will not only be offered to students, but also to the community at large.

Summer Title I Enrichment Program (page 36)

Aside from swimming lessons, baseball, and a few weekly library programs, there are currently no organized summer learning opportunities in the community. When this component is completed

- A technology rich, summer enrichment program will be available.
- It will delay the regression of educational achievements that normally occur during the summer.
- It will offer students who have struggled with certain concepts during the year opportunities to catch up.
- It will incorporate application, problem solving and life skills.
- It will provide children with an opportunity to pursue individual interests and explore unusual areas of knowledge in a less structured environment where natural curiosity, rather than grades, will be most important.

Action Matrix – Technology in the Classroom

Objective: To bring technology-based learning into the classroom. To connect each classroom to shared resources in the library, and on the Internet. To provide teachers with the training that will enable each one to incorporate multimedia, multi-format learning opportunities into the classroom.

Rationale: We need technology-assisted learning resources so that every child can learn to their fullest potential. Books are static, and rigidly structured, providing few spontaneous learning opportunities. Our frontier location makes us vulnerable to gaps in technology. Classes taught on technology stations, prepared by teachers who are comfortable with multimedia, can open the world to the student.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Define what the technology station, and associated network with Internet connectivity should "look like"		Goals 2000 committee	Year 1	Be specific about each classroom. Visit with teachers to find out their ideas	Written summaries
Meet with a hardware consultant. Develop a formal network plan.		CEO Goals 2000 committee	Year 1	Determine what we will need to "make it happen".	Notes from meeting
Purchase as much as is possible with the "hardware and operating system software" as possible with the hardware portion of the Goals 2000 grant	Goals 2000 funds	CEO Goals 2000 committee	Year 1	Follow list of needed components	Hardware/software purchased
Create a technology specialist position to assist in the installation of the hardware / software / and help train people in its use.	Salary for Technology Specialist	CEO School Board	Year 1	Person should be knowledgeable in setup, installation, and keeping networks up and running	Technology specialist hired
Investigate potential grant / funding sources for other technology center infrastructure		CEO, Technology specialist, grant writer	Year 1	List needs and sources of funding. Initiate grant writing	Lists generated Grant applications written

Technology-Based Learning to the Classroom Cont.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Develop a plan for teacher training	Funds for training	CEO (see separate plan)	Year 1	Visit with teachers to find out their interests, skills	Written plan
Develop policies, procedures and methods for evaluating the hardware and software requirements of each classroom, including purchasing and replacement.		CEO (see separate plan) Technology group	Year 1	Make it comprehensive, equitable, and workable	Written policy and procedures

Action Matrix: Teacher Technology Training

Objective: To assist teachers in the process of integrating technology in into the classroom

Rationale: To use technology effectively, teachers must be comfortable with its use, and understand its potential and limitations. The level of achievement core technology competencies currently varies widely. Variable amounts of time and training and individualized coaching will be required to boost all teachers to the level of comfort required by the technology centers.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Expose teachers to current technology and trends at conferences like "TIE" and "TNT"	Goals 2000 funds Eisenhower funds	CEO	Begin Year 1 continuing		Teachers attend workshops and inservices
Organize a working group to develop a technology plan for teachers		CEO	Year 1	Representatives of various levels of the teaching staff	Group formed and meets
Obtain a technology specialist to assist the group in developing the plan.	Salary for technology specialist	CEO School Board	Year 1	Person knowledgeable in technology training	Technology specialist hired
Define core computer / technology competencies that every teacher should possess		Specialist, working group	Year 1	Input from teachers	Listing made of core competencies
Inventory each teacher's level of competency in each of the core areas		Specialist, working group teachers	Year 1 continuing		Checklists or individual meeting
Create an individual teacher technology plan for each teacher		Specialist, working group Teachers	Year 1 continuing	Define how the competencies will be taught. How / when will teachers be taught, how will be advances in technology be communicated, etc.	Individual written plans

Action Step	Resources	Who	Timeline	Criteria	Data(Evidence)
Provide ongoing training and support to teachers	Funding for Workshops and inservices	Specialist, technology-fluent individuals, consultants	Year 1 continuing	Provide individual training time and expertise, set up workshops and inservices	Training sessions
Develop an ongoing method for evaluating teacher's needs, monitoring new technologies, and restructuring training program.		Teachers, Specialist, working group	Year 1 continuing	Evaluate at least yearly Be sure teaches have a great deal of input.	Modifications made when needed to improve program
Infuse technology into the curriculum.		Teachers, specialist	Year 1 continuing	Include all levels	It is happening!

Action Matrix: Teacher Resource Center

Objective: Create a teacher resource / preparation center

Rationale: Teachers need a protected area where they can receive training, do research, and create technology-based instructional lessons. This center will provide an area of quiet away from the din of the busy day. A variety of technologies, as well as technical assistance and a secretary will be available. There will be a conference room with a phone where teachers and parents can meet.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Determine physical plant options for the center		CEO	Year 1	Accessible to teachers. Includes necessary space and facilities	Options listed
Develop staffing proposal and job description for technology / media specialist		CEO Technology/ Media Spec.	Year 1	Include all the areas that this person is expected to responsible for.	Job description created
Determine rearrangement of current equipment and list of new items needed		CEO Teachers	Year 1	Include the teachers' ideas.	List of equipment developed
Develop budget for center (startup and ongoing)		CEO	Year 1	Include staffing, hardware, software, materials, etc. Get input from teachers!	Budget developed
Present budget to school board		CEO	Year 1	Written form	Board Minutes
Procure space, staff, and equipment for center. Oversee setup	Funding for staff, purchases	CEO	Year 1	See physical plant and materials proposals.	Center equipped and functioning

Action Matrix – Policies and procedure for evaluating hardware and software requirements

Objective: Develop policies, procedures and methods for evaluating the hardware and software requirements of each classroom, and an acquisition plan for equitable hardware / software purchase and replacement

Rationale: We need to develop an equitable method for obtaining hardware/software so that all classrooms have the resources they need.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Create a working group to develop an evaluation / acquisition plan.		CEO	Year 1		Group formed and meets
Obtain a technology specialist to assist in the plan development.	Funding for salary	CEO	Year 1	Person should be knowledgeable	Person hired
Evaluate current hardware/software inventory		Specialist, Working group.	Year 1	Make recommendations	Written recommendations
Obtain a "wish list" of materials from individual teachers		Specialist, Working group Teachers.	Year 1 and continuing	Not only what types of software / hardware, but more general "what I'd like to do is this" descriptions.	Written list
Evaluate how classrooms are equipped in terms of basic "teacher technology competencies".		Specialist, Working group.	Year 1 and continuing	Try to match the teacher and the technology available with methodology used	
Develop a plan for software / hardware review and replacement including respect of copyright laws.		Specialist, CEO, Working group.	Year 1	Make recommendations to the CEO Follow copyright laws and user agreements!	Written plan
Investigate potential sources of funding for hardware / software acquisition and replacement.		Specialist, working group. CEO, grant writer	Year 1 and continuing	Initiate funding applications	Applications for funding
Propose the plan to the board.		Working group, CEO	Year 1		Board minutes

Action Matrix Regional Library

Objective: To merge the school library with the local branch of the county public library into one physical facility.

Rationale: Access to quality library services is a key element in overcoming the physical barriers of the frontier. Combining the facilities and resources of the school and the county libraries, sharing staff and a physical plant connected to the state's interlibrary loan system, would allow us to increase access time and improve connections to local, regional, state and national library services for all the community.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Informally discuss the idea with local county commissioner and the local county librarian		CEO	Year 1	In person or on the phone	Memo and report to the school board.
Discuss the idea with the School Board.		CEO	Year 1	Board approval or rejection	School Board minutes
Form a joint School/County Library Committee		CEO	Year 1	Community and school member representatives	Committee meets
Develop a plan for combining the two libraries and expand services to the community.		CEO and Library Committee	Year 1	Plan includes staffing proposals, budget for hardware, software, physical improvements, Internet access, training, logistics, who does what.	Written plan
Research and contact funding sources		Library Committee Grant Writer	Year 1-Continuing	Locate those sources likely to fund a project specified in the plan.	List of sources available. Submit grant applications
Submit plan to appropriate governing bodies for approval		Library Committee	Year 1	In person	Minutes of meetings
Implement the plan		Library Committee School, County	Year 2	Follow the written plan	Completed and operational facility.

Action Matrix: Library as educational resource center

Objective: To transform the school library into a "high tech', community based, lifelong learning and educational resource center.

Rationale: Access to quality library services coupled with technology and education is a key element in overcoming the physical barriers of the frontier. As the amount of information in the world expands, our students and community will find it increasingly necessary to be able to access and utilize current , up-to-date information from local and remote sources in a timely manner.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Develop a planning group that would have overall responsibility for developing a library resource center plan.		CEO, Librarian	Year 1	Librarian, Community, Educators	Group is established.
Develop a plan for library automation		CEO, Librarian, Consultant	Year 1	Plan meets identified criteria	Plan is written
Develop a plan for Internet access, networking and equipment.		CEO, Library Committee	Year 1	Equitable access for all parties	Plan is written
Develop a plan for staffing and training		CEO, Library Committee	Year 1	Allow for adequate staff to cover extended hours.	Plan is written.
Develop a plan for physical plant improvements.		CEO, Library Committee	Year 1	Include budget for building, furniture, etc.	Plan is written.
Combine above plans into overall plan and develop budget		CEO	Year 1		Budget
Research funding opportunities and seek funding		Library Committee Grant writer, CEO	Year 1 Continuing		Written list of possible sources
Present finalized plan, budgetary information, and funding information to School Board for approval		CEO, Library Committee	Year 1	Present completed plans in written form and in person	Board meeting minutes.
Implement the plan		CEO	Year 2	Stated in plan	Functioning library

Action Matrix – College / University links

Objective: Develop a relationship with a college or university that will result in the establishment of a regional post-graduate learning / business center at the Isabel School

Rationale: College-level business, technology and liberal arts courses are not locally available to seniors, or regional adults. Teachers and other professionals must leave the area to obtain continuing education. Lack of association with a teaching college puts us at some risk for falling out of the mainstream.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Planning phase					
Establish a feasibility group		CEO	Year 1	School and community members, possibly representatives of NWAS and CRST and SRST tribes, an educational consultant who's established a community college, etc.	Group formed and meet
Hire a staff-person /coordinator	Salary for staff person	CEO School Board	Year 1	Knowledgeable person who can do the legwork of the group, seek funding etc.	Staff person hired
Search for models		Staff-person, consultant	Year 1	Community colleges in small communities.	List of models developed
Gather information		Staff-person	Year 1	What's available through the Internet, satellite-based distance learning and similar methods.	List of digital learning resources developed
Perform a regional market analysis		Staff-person	Year 1	What's needed. Evaluate what we could offer a college-partner.	Regional analysis performed.
Develop curriculum Finalize budget and program.		Group	Year 1	Shape / form / model of college defined	
Evaluate funding sources and seek funding.		Staff person, CEO, college rep, grant writer	Year 1	Contact funding sources and start application process	Grants written

Action Step	Resources	Who	Time Line	Criteria	Data(Evidence)
Building phase					
Purchase / obtain or identify faculty, equipment and staffing	Funding for purchases	CEO, college	Year 2 or as soon as funding is available		Necessary equipment, faculty and facilities in place
Finalize curriculum in conjunction with college partner		Group with college rep	Year 2		Curriculum developed
Begin marketing community college		Staff person, college	Year 2	Be thorough	Marketing materials distributed
Implementation phase					
Fully implement plan		CEO, staff person, college rep, group	Year 2 - 3	Complete listing	Courses offered

Action Matrix – Internet Service Provider and virtual mall

Objective: To become a Internet Service Provider and offer electronic mall services to businesses (local and distant).

Rationale: The Internet overcomes the physical barriers of the frontier, making it possible to offer electronic stores where goods from local as well as distant merchants are sold. Such businesses are ideal for this area. Students could be taught how to program and develop the Internet stores, a marketable skill that they can carry into their post-graduate life.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Planning phase					
Developed a planning group that would have overall responsibility for developing a business plan		CEO	Year 1	Diversified group Business people, educators, community	Group is formed and meets
Obtain a technical assistant to do the legwork for the planning group	Salary for technical assistant	CEO	Year 1	Knowledgeable, preferably experienced in ISP development	Technical assistant obtained
Research models for Internet commerce.		Technical asst., Planning group	Year 1	Define and compare parameters of each	Models listed
Perform a market analysis who and where are our customers, how would we be different		Technical asst.	Year 1	Prepare written report	Market analysis completed
Research hardware/software components		Technical asst.	Year 1	Create listing of all necessary hardware and software	Software/ hardware options listed
Research startup and ongoing costs, grant sources, and possible financial partners		Technical asst., CEO	Year 1	Prepare preliminary budget. Contact potential financial partners	Costs and potential capital sources defined
Develop a business plan.		Technical asst., Planning group	Year 1	.All aspects of the venture addressed	Business plan presented to the board

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Building phase					
Obtain startup capital through loans, grants and partnerships	Seed-money	CEO, ISP and mall staff, grant writer	Year 1	Find the best fit for our plan	Funding applied for
Purchase necessary software/hardware	Funding for purchases	CEO	Year 1 –2 (as soon as funding is secured)	See list from finalized plan	List of items purchased and installed
Train the trainers- teachers who will teach students	Funding for training	Outside / local consultants	Year 1	Knowledgeable Capable trainers	Trainers hired
Market the mall and ISP services	Advertising monies	ISP and mall staff	Year 2	Wide spread marketing	Marketing plan followed
Teach students "Store design"	Funding for materials, staff	ISP staff	Year 2	Complete, thorough	
Implementation			Year 2 and continuing	ISP services offered Mall opens	Satisfied Customers

Action Matrix: School to Work

Objective: Develop a School to Work program

Rationale: Because of our frontier location, small towns and the lack of extensive business infrastructure, our students don't get exposed to many potential occupations. Some of our graduates directly enter the workforce, and most would benefit from exposure to a variety of occupations and workplaces.

Action Step	Resource	Who	Time Line	Criteria	Data (evidence)
Develop a planning group composed of teachers, community business persons, Northwest Area Schools School to Work coordinator (NWAS STWC), and perhaps an outside consultant		CEO	Year 1		Group formed and meets
Obtain technical assistant to do legwork for planning group	Salary for staff person	CEO School Board	Year 1		Technical Asst. hired
Research models of existing School to Work programs		Tech. Asst. NWAS STWC	Year 1	Find one that will work for us	Summary of model components
Develop framework curriculum and learning model for the School to Work program		Group Tech Asst. NWAS STWC	Year 1	Address issues of making up lost class	Rough framework and operating principles defined
Develop a financial plan for the School to Work program.		Group NWAS STWC	Year 1		Financial plan developed.
Evaluate models and financial plan and make proposal to School Bd.		Group CEO	Year 1		Proposal is reviewed and accepted.
Seek funding from external sources, businesses, etc. (IBM?)		Tech Asst. Grant writer	Year 1		Funding sought
Develop a junior-year curriculum in business processes		Business teacher, Tech Asst. NWAS STWC	Year 1 and continuing	Marketing, Cust. Services, Quality Improvement, Accounting and Tax Practices	Junior year course is developed Students registered

Action Step	Resource	Who	Timeline	Criteria	Data (Evidence)
Identify potential partners within a 2 hour drive of Isabel.		Tech. Asst. NWAS STWC	Year 1and continuing	Willing to take on students	List of partners developed
Develop prototype outcomes with participating businesses		Tech Asst NWAS STWC	Year 1-2 and continuing	What the student will do, What will be achieved	Business-specific workplan and outcomes listed
Match students to work sites		CEO, Guidance Counselor, NWAS STWC Tech Asst.	Year 1-2 and continuing		Students matched with businesses
Ongoing evaluation of student at site		NWAS STWC Business teacher	Periodic Ongoing	Evaluate all aspects	Written evaluation
Revise curriculum and work sites to meet changing environment and needs of students and businesses		NWAS STWC Business teacher	Ongoing	Evaluate all aspects	Modifications and changes made.

Action Matrix – Development of a careers curriculum

Objective: Development of a careers curriculum in the school

Rationale: Because of our frontier location, small towns and the lack of extensive business infrastructure, our students don't get exposed to many potential occupations. This program would provide routine, coordinated exposure to a variety of occupations. General learning should begin in the elementary grades, and the curriculum should become much more career specific in high school

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Planning phase					
Organize a curriculum development group		CEO	Year 1	Group composed of teachers, guidance personnel, and NWAS School to work coordinator	Group formed and meets
Obtain a technical assistant to do the legwork		CEO	Year 1	Knowledgeable	Technical Assistant hired
Research existing models / curriculum.		Tech Asst., Planning group	Year 1	Contact other schools	Sample plans
Develop database of potential sources of career information (AV, Internet, and CD-ROM).		Tech Asst., Planning group	Year 1	What background do you need have to become a Vet. Assistant, what does a VA do, where are the training programs, what do they cost etc.	Listing and addresses
Create a rough outline of the careers programs for 4th- 12th grades,		Tech Asst, Planning group	Year 1	Sketch out how curriculum might be implemented. Discuss issues of incorporating career education into existing vs. creating a once-a-week course	
Develop financial plan including staffing changes/additions.		Tech Asst., CEO	Year 1	Include all aspects of plan	Written proposal
Evaluate potential funding sources		Tech Asst., CEO	Year 1	Find best fit for our plan	Seek funding

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Choose a final plan and propose it to the board		CEO	Year 1	Finalized plan	Final Plan. School Board minutes
Building phase					
Develop curriculum		Planning group, teachers	Year 1	Include scope and sequence	Written curriculum
Obtain career education resources	Funding for purchases	CEO, Tech Asst. Lib/Media/Tech.	Year 1	Staff, materials. CD-ROMS, Whack Internet sites, etc.	Resources obtained
Implementation phase					
Begin offering career education		Teachers	Year 1-2 and ongoing		Program in action

Action Matrix: Clustered, Multi-Age Groupings, IEPs for all students

Objective: Implement a standards-based curriculum school wide.

Rationale: To improve teaching and assure a high quality education for all students

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Inservice staff about what the SD standards are and teach them how to write curriculum statements	Goals 2000 Grant Staff Development monies	TIE School staff	Feb. 1997	Hands-on training	Some completed curriculum statements for communications; knowledge of the process for completion.
Finish writing standards-based curriculum for Communications	Goals 2000 Grant Staff Development monies	TIE School staff	June 1997	Curriculum that addresses each standard in communication	Completed curriculum
Write standards-based curriculum for other subject areas: Technology Math Science Social Studies Fine Arts		School staff sub committees	Year 1 " Year 2 " Year 3	Curriculum fits both standards and local educational needs	Completed curricula
Get School Board approval for each step		CEO	As completed	Adoption	School Board Minutes

Action Matrix: Clustered, Multi-aged Groupings; IEPs for all students

Objective: Train teachers to develop and manage multi-aged, individualized learning.

Rationale: Class sizes are diminishing and our population is very diverse. Teachers will need to meet the needs of combined classes. We feel this strategy would maximize resources and offer the best education to each individual student.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Research (through Internet, reading and on-site visits) multi-aged classroom learning		Librarian chairs this part with committee of staff, parents, students, CEO	Year 1	Address: Instructional strategies, appropriate age groupings, how to implement at secondary level, logistics like scheduling, funding	Meetings, articles, reports of on-site visits, summaries
Develop a plan for a pilot implementation including staff training		CEO chairs committee with members from staff, parents, grandparents, students	Year 1	Limited in scope, but school-wide. Include training for teachers.	Written plan
Train teachers	Funding for training activities	CEO/Committee	Year 1 Continuing	Review of other projects similar to pilot to see what works. Give ideas on how to implement pilot effectively	Staff inservice
Implement pilot	Funding for supplies	CEO/Committee	Year 1	Every teacher participates to some degree	Article in newspaper
Evaluate pilot		CEO/Committee	End of Year 1	Receive input from all constituents	School Board minutes
Revise and expand the pilot to full implementation	Funding for supplies	CEO/Committee	Year 2	School-wide	Written plan Newspaper article

Action Matrix – Parenting and life skills curriculum

Objective: Develop a high school curriculum for parenting and life skills

Rationale: Students need certain life skills to function in adulthood. By the time a student graduates from high school, we hope to expose them to various life skills they need to survive without parents and lead a productive adult life.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Form Curriculum Development Group		CEO	Year 2	Broad range of representation: Educators, community members, possibly Tribe, County Extension Service, County Health Nurse.	Group formed and meets
Research models from other schools		Development Committee	Year 2	Curricula must be prudent, timely, include vital life skills, be workable, 1 sem. long	Models from other schools
Develop a pilot curriculum		Development Committee	Year 2	Usable curriculum. Follow strategic outline. Include staffing, materials, and budget	Pilot Curriculum
Submit plan to school board for approval		CEO	Year 2	Written plan and in person	Minutes of meeting
Implement pilot class	Funding to implement	CEO and staff	Year 2-3	Class offered to students and is scheduled	Curriculum in place
Evaluate pilot curriculum		Class teacher, students, parents Development Committee	End of semester	Input from staff, parents, and students.	Written evaluation report to CEO
Renew, revise, expand		Development Committee	End of each year	Expand or fine tune program according to recommendations	Committee recommendation
Implement course for subsequent years	Funding to implement	School District	Years 3-5	Ongoing development and evaluation to meet current needs	Course on list of available classes

Action Matrix – Summer program

Objective: Develop a school-wide Title I summer program

Rationale: Our students need to cultivate their natural curiosity to learn, develop an interest in learning, expand their enjoyment of learning, and hone their learning skills to enhance their quality of life, both now and throughout their lives. By developing an elementary summer program that is freer of time constraints and academic demands common in the regular school year, we hope to nurture their innate curiosity that will help lead them to becoming life-long, independent learners. At the same time, we seek to stave off the regression of skills many students experience over the summer months. Additionally, we hope to provide an environment, which will allow interested older students to gain real life experience in the field of education.

Action Step	Resources	Who	Time Line	Criteria	Data (evidence)
Form Title I committee		CEO	Year 1	Small, workable group. Include educators, parents, students	Committee formed and meets
Investigate other Title I summer programs to get ideas.		Title I Committee members	Year 1	Types of activities, length of program, scheduling, staffing, etc.	Report made to Committee
Develop and tailor summer plan to meet elementary student needs		Title I Committee	Year 1	Limited in scope, but elementary wide. Target areas needing older student help	Written plan
Contact Job Service		Title I Committee members	Year 1	Find out feasibility of Job Service funded summer youth	Notes on conversations
Finalize plan and budgetary considerations and present to the school board for approval		CEO	Year 1	Explain plan fully in both writing and in person	Board minutes
Include summer plan in Title I schoolwide grant application		Title I grant writer	Year 1	Explain plan fully in grant narrative. Include budget	Grant Narrative Budget
Implement plan according to the Title I approved narrative. Advertise, register students	Title I funds	CEO , Staff	Year 2	Give all particulars Staffing, facilities, scheduling, etc.	Informed parents, Working summer program
Evaluate , Revise, Expand		Committee	End	Investigate the entire program	Evaluation report

Langford School District #45-2

Technology Action Plan

May 1997
South Dakota Goals 2000
Technology-Based School Improvement Planning
Langford School District Technology Planning Team
Technology & Innovations in Education Leadership Team

Foreword

This Technology-Based School Improvement Plan reflects the efforts and recommendations of the Goals 2000 Technology Planning Team.

We respectfully submit this Action Plan for the purpose of informing and guiding the implementation of the mission, vision, beliefs and objectives of the Langford School District as we prepare our students for the challenges of the 21st Century.

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Technology Planning Background
Langford School District
South Dakota Goals 2000
Technology-Based School Improvement Plan

Statement of District Demographics (1995-1996):

The average daily membership at the Langford Public School for the 1995-1996 school year was 238 students.

The school district employs twenty-six (26) teachers which is a FTE of 21.2 as we share a speech teacher with the Britton Public Schools, have a half-time home economics teacher, a half -time special education teacher, a half-time kindergarten teacher and a half-time librarian.

We employ three cooks in the school lunch program, two full-time custodians, three teacher aides, one interpreter for a deaf child, one secretary and five school bus drivers for a total of fifteen (15) paraprofessionals.

The student body is made up of 240 students in K through grade 12 at the Langford attendance center, and 34 students K through 8 at the Newport Hutterite Colony that is staffed and run by the Langford School District.

Our school district is made up of approximately ninety- percent rural students who are bused daily to the attendance center. The Hutterite Colony is so organized that busing is not needed as they all live within three to four blocks of the school.

We have made available to the colony all of the existing and planned facilities of the Langford attendance site and hope to build the bond between both as each have something to contribute and offer the other.

Our school district is continually striving to provide better educational opportunities for students within a framework of declining state and local funding. Based upon the United States Department of Agriculture income eligibility guidelines for free and reduced meals, 54% of our students (148 or 274) come from low income families. To maintain and improve quality programs and curriculum already in existence, we find it necessary to seek out and obtain other non- traditional funding sources. Your monies would allow us to expand our established technology curriculum for the education of our students, faculty, and community.

(Larry W. Wattier, Superintendent)

Statement of Past Major Technology Efforts Implemented in the Langford School District:

Three Commodore Pets introduced our students to the limited world of computers in 1984. In 1986 an Apple lab of 15 Apple IIe computers was installed allowing computer-based classes to begin. Three Apple IIGS computers were added the following year making the IIe models appear old and obsolete. Nevertheless, this lab served its purpose for teaching such things as word processing, databases, spreadsheets, and graphics. This lab was the only lab available to be used by all grade levels and subject areas. Elementary keyboarding in grades 3-6 started in 1990 with 3 to 4 week periods of instruction. This time has now been expanded to nine weeks for each of those grade levels and K-3 will also receive instruction.

Our first Novell networked lab consisted of twelve 486 IBM computers placed in 1993; six 486 Compaq computers were added in 1994. This lab of 18 computers was virtually destroyed during a 1996 spring rainstorm when the roof leaked allowing inches of water to soak through the ceiling, machines, and floor.

Insurance money purchased 12 computers and district funds purchased 8 computers allowing us to not only restore the computer lab to its original capacity, but to improve it. Twenty Pentium IBM compatible computers are networked with Windows NT. Being awarded the Goals 2000 Planning Grant gave us money to repair the water-damaged computers and place them in secondary classroom and administrative offices as part of our technology plan. An intranet system connecting these computers so that they can communicated with each other and a printer will be installed during the 1997 summer.

In the fall of 1996 one dedicated phone line was installed providing Internet access to two computer stations, one in the Media Center on the first floor and one in the Computer Lab on the second floor. Phone jacks were installed in individual classrooms and offices making Internet accessible on a limited base. By the fall of 1997, this accessibility will be increased to include all 20 computers in the lab.

The 1996-1997 school year was the first time elementary students had direct access to computers in their classrooms. The Apple computers previously located in the lab were move to the elementary rooms- the average student/computer ratio was 5 to 1. Very limited software was available for these outdated machines, the majority being used for skill reinforcement. Three multimedia Macintosh computers were purchased with Goals 2000 funds. These were placed in the sixth, fifth, and fourth grade rooms allowing three Apple machines to be placed in the Newport Colony. Because the computers in the elementary rooms are on mobile carts, teachers have the flexibility of creating mini labs of three computers that can be used in any or all rooms.

The Media Center has three multimedia Macintosh networked to one printer and is accessible to K-12. Title funds have purchased two multimedia Macintosh and nine Apple IIGS computers.

For the 1997-1998 school year, the school board has agreed to purchase four computers that will be placed in elementary rooms, giving every elementary classroom access to a computer with multimedia capabilities. Hookups to television sets will add whole-class viewing capabilities.

Teachers have attended inservices at Northern State University in Aberdeen and Watertown and have taken advantage of other technology-based workshops such as the Weekend Technology Encounter in Aberdeen. Due to our planning grant, extensive faculty training has occurred within the present school term. This on-going staff development provided not only basic hands-on experience, but also provided the desire for in-depth exploration and learning that created enthusiasm to integrate technology into the classroom environment. (Core Team, May 1997)

Statement of District Commitment to Ensure the Success of the Technology-Based School Improvement Plan:

Implications for education and economic competitiveness are enormous. Employers must have well-educated employees who make skillful use of the information technologies to improve their productivity as well as to increase their knowledge.

We are concerned that many South Dakota communities have vast technological resources, while others such as ours, do not. This puts the future of the children in our school district and community at risk!

Our board has made a firm commitment to technological development and improvement. The continued purchasing of computers, the phone connections in the rooms for Internet use, the approval given to buy programming and CD ROMs all indicate they feel it is important and necessary. The changes and improvements will be slow in coming because of the limited funding available.

The administration has encouraged staff in the use of multimedia as a means of enhancing, enriching, and extending existing curriculum.

They have supported teachers' requests for staff development opportunities, ordered new materials, and made arrangements for time to attend meetings as well as time to experiment with new technologies.

Innovation has been applauded and moral support has been given when needed.

With their continued support, commitment, and leadership, technological development will become a reality.

The faculty is receptive to the technological innovations, but lack the training to feel secure in the use of the technology. This can be overcome with experience on the systems, continued inservice, and mentoring.

The team of three have attended workshops, written grants, and are prepared to help guide other staff members in technological experiences as they become available at our local level.

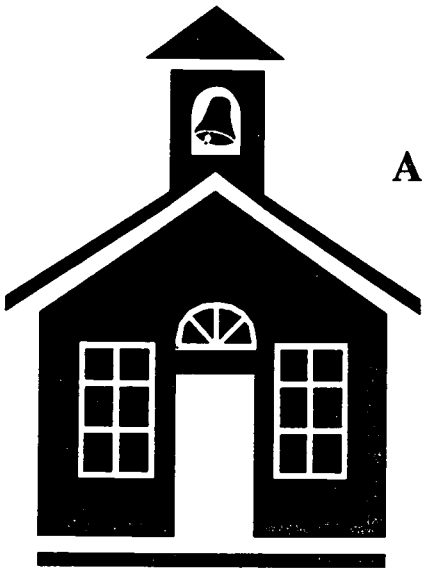
Student interest and involvement is high at Langford and much time is spent in the computer lab. With expanded facilities and new service, the interest level will continue to rise sharply.

The community has shown their commitment of the school by their attitude, their attendance at school functions and adult classes, their cooperative efforts with fund-raising activities, as well as anything else they have been asked to help to do.

The Langford school can and will progress in technology education, but the speed at which this progression takes place is dependent on the funding available. The willingness, the desire, the commitment, and the enthusiasm are all in place. We just need MONEY!

Together, we are committed to offering a creative, new vision to ensure successful, effective, and efficient uses of technologies for the students in the Langford School District.

(1996 Goals 2000 Planning Grant Application)



A Brief Technology History

Submitted by Carol Raap

Three Commodore Pets introduced our students to the limited world of computers in 1984. In 1986 an Apple lab of 15 Apple IIe computers was installed allowing "typing" class to change to "keyboarding" class for the first time. Three Apple IIGS models were added the following year, making the IIe appear old and obsolete. Nevertheless, this lab served its purpose for teaching such things as word processing, databases, spreadsheets, and graphics. Elementary keyboarding in grades 3-6 started in 1990 with 3 to 4 week periods of instruction. (This time has now been expanded to nine weeks for each of those classes with K-3 also receiving minimal instruction.) *AppleWorks* and *Print Shop* were very popular pieces of software, as well as *Where in the World is Carmen SanDiego*, *Where in the USA is Carmen SanDiego*, and *Oregon Trail*. The Apple machines were moved to the elementary classrooms in the spring of 1996.

Our first Novell networked lab consisted of twelve 486 IBM computers in 1993. Six 486 Compaq computers were added to this lab in 1994. This update brought new and exciting revisions to computer class offerings. This lab was virtually destroyed during a 1996 spring rainstorm when the roof leaked allowing inches of water to soak through ceiling, machines, and the floor.

Being awarded the Goals 2000 grant not only helped us restore and update our lab, but more importantly, provided structure for staff training. Enthusiasm and interest were aroused as faculty experimented with software and hardware. Classes were held throughout the year on various topics to which they responded positively. Three Macintoshes were purchased and sent home with faculty to further their training. This did much to build their confidence.

Twenty Pentium PC models now operate in our computer lab networked with Windows NT. Damaged computers were repaired and placed in each secondary classroom for faculty/student use.

A contract with Microsoft has given us the opportunity to use the latest and the best Microsoft application and multimedia software for training purposes.

Goals 2000 1996-1997Action Planning Team

Technology in education presents both challenge and opportunity. This is an appropriate way to describe the task set before the Langford Technology Planning Team members during the Goals 2000 Strategic Planning Year.

Planning Team Members:

Larry Wattier	Superintendent of Schools
Terry Osborne	High School Principal/Band Director
Janet Neff	Elementary Principal/Chapter Teacher
Carol Raap	Business Education/Computer Teacher K-12
Faye Stohr	School Board, Parent
Sherri Jensen	High School Student
Colin Cutler	High School Student
Sherman Cutler	School Board President, Parent
Barbara Kuske	High School Teacher
Dennis Fagerland	Parent
Sue Smeins	Parent
Sharon Osborne	Elementary Teacher
Rodney Tobin	Parent
Terri Traxinger	Parent
Neil Stokke	Business, District Technology Consultant, Parent
Lorrie Sanderson	School Board, Parent

Grant Core Team:
Carol Raap, Sharon Osborne, Barbara Kuske

TIE (Technology & Innovations in Education) Representatives:
Marlene Rothermel, Peggy Blair, Gerald Raymond

The Planning Team also recognizes the efforts of all the students, staff members, and community representatives who participated in technology surveys and interviews. These individuals gave of their valuable time to provide the planning team with much needed input.

The Process: Year One Planning Activities

In September of 1996, the Technology Planning Team began to formulate the Technology-Based School Improvement Plan guided by the following Goals 2000 project requirements:

- Complete a district-wide technology inventory;
- Develop a 3-5 year Technology-Based School Improvement Plan;
- Participate in professional development activities addressing critical issues such as organizational development, implementing content standards, using and integrating technology and telecommunications applications, and assessment;
- Initiate acquisition and implementation of tools and/or applications identified by the local school improvement plan, and;
- Conduct follow-up activities to maximize the potential and impact of the local planning effort.

The planning process began with a **technology audit conducted by the TIE leadership team**. The findings and recommendations were presented to the local planning team to inform and guide their efforts.

The planning team met monthly until January 1997 and **developed the Langford mission, vision, and belief statements that would guide the planning process, objectives, and outcomes**. At the final whole team meeting, members decided on priority issues and challenges that were to be addressed in the first year Action Plan. The team members then decided to turn responsibility for completion of the plan over to Core Team members, Carol Raap, Sharron Osborne, Barbara Kuske (Langford staff members), and Marlene Rothermel (TIE).

During the planning year various staff development opportunities were sponsored through Goals 2000 Planning Grant funding. TIE staff as well as Langford technology staff facilitated staff development opportunities. Topics presented included:

- Integrating the Internet into Your Classroom
- One Computer – One Classroom
- Developing Standards to Guide Classroom Curriculum – Issues and Challenges
- Work Processing, Database, and Spreadsheet as a Tool for Teaching/Learning
- Software Previews

Through Goals 2000 funding, various Langford staff and community team members attended the following conferences:

- Charting the Future Leadership Conference in Aberdeen
- TIE '97: School is Everywhere in Rapid City
- Scholastic Network, Inc. training workshop in Sioux Falls
- Windows NT Server Administration training in Sioux Falls

The Langford School Board rewarded the efforts of the planning teams by taking the following action at the May 1997 board meeting:

- Approved job descriptions and contract support for media specialist, computer coordinator, and technology technician;
- Approved attendance at Microsoft NT Server 4.0 Administrator class in July 1997 for Carol Raap and Neil Stokke (funding support from remaining Goals 2000 grant funds);
- Approved TIE membership for 1997-1998 school year (funding support from remaining Goals 2000 grant funds);
- Approved a budget of $60 per student for technology (infrastructure, staff development, curriculum development, complement future grant acquisition);
- Approved attendance of entire staff at TIE conference for one day every other year, alternating with attendance at the Watertown regional inservice.

> *The Goals 2000 grant's greatest result was the change in attitude brought about by the training of our faculty. Fear gave way to enthusiasm and a quest for greater use of technology in the classroom. Creating a K-12 technology committee has developed an interest and an ownership in the direction of our future as we implement the newly created technology plan. Many have now volunteered to serve on committees that will strengthen the development as we expand our technology-based curriculum. This experience has provided peer support and mentoring among our staff. (Core Team, May 1997)*

Following an initial technology audit and TIE Leadership Team visit, the following reflections and observations were shared with the Langford Planning Team. These reflections served to guide the planning process.

The TIE Goals 2000 Team observed:

- **A school climate and culture that reflect:**
  - Pride in facilities – physical plan is clean, welcoming and inviting;
  - A caring, supportive atmosphere;
  - Students as the priority of the school;
  - The school as a vital part of the community.

- **Supportive leadership that includes**
  - Superintendent and principals who seem supportive of teacher efforts;
  - Teacher leaders who have taken the initiative to advance the use of technology in the district.

- **Staff who**
  - Include strong teacher leaders;
  - Have invested a great deal of their professional career in the Langford District;
  - Have established positive working relationships;
  - Verbalize an overall caring, supportive, can-do attitude.

- **Students who**
  - Are secure and involved in their school experience;
  - Feel valued by both their school and their community.

- **A community that**
  - Is supportive of student and staff efforts and activities;
  - Exemplifies a strong school/community relationship.

The TIE Leadership Team also shared critical planning issues to be considered during the planning process.

Regarding Technology:
Technology should not drive educational decisions. Decision-making should be based on the learning and teaching needs of the students and staff.

Regarding Planning:
The planning team will need to decide on short-term directions that need to be taken to maximize the planning efforts. Informed decision making will require TIME for members to collect and review data that is needed for program planning, implementation and evaluation. Time will need to be provided for research and staff development that will provide the planning team leadership with the capacity to guide this planning process.

Regarding Curriculum:
Need is seen for a formal curriculum process that results in a clearly articulated K-12 curriculum that states what the Langford School District expects students to know and be able to do.

Regarding Assessment:
There will be a need to explore and adopt assessment strategies that meet the needs of technology-immersed curriculum. Student-centered learning environments provide wonderful ways for teachers to gather rich data on the progress their students are making.

Regarding Staff Development:
Critical to the success of the plan will be the provision of time and resources for staff to learn to use the tools provided for them; time for software preview and curriculum planning; time for research concerning best practices for teaching and learning; resources for attendance at conferences and school visitation to observe and dialogue with other teachers.

Regarding the Infrastructure – Hardware, Networking, Software and Human Resources:
The extensive demand of a technology-rich district may well require a full-time position that is devoted to maintaining the infrastructure and providing on-going staff training and support.

Regarding Positioning for the Future:
Langford, through careful planning, will position itself to take advantage of future State and Federal initiatives.

> *"Schools in isolated rural areas can emerge as learning communities and as telecommuting villages.... Technology will not only connect the school with the community but will also link the rural school with a global network of information and resources. Rural school reform may mean that someday students will not need to leave the rural area to find work. And living the good life in a rural community will exemplify how residents think globally but act locally as caring neighbors."* (Harmon, Seal. Kappan, Oct. 1995)

What We Believe

- Mission Statement
- Planning Goals
- Vision Statements
- Belief Statements

The mission of the Langford School District is to provide resources, promote education, and prepare students for a life-time of possibilities as their generation impacts society with positive leadership.

The integration of technology is critical to the success of the Langford School District Mission. Four far-reaching goals must be met if this plan is to be realized so that our students are prepared to meet the challenges of the 21st Century.

Teaching and Learning: *The design of new learning environments that include changing curriculum, instruction, and assessment in response to the new tools of education.*

System and Resources: *The alignment and allocation of resources to empower new models and processes in support of technology-rich learning environments.*

Technical Infrastructure: *The realization of a technical infrastructure that assures equitable access for all stakeholders in the educational community.*

Human Infrastructure: *The identification of new roles for educational stakeholders and district staff to maintain and improve both technical and people infrastructures.*

IN SUPPORT OF OUR DISTRICT MISSION WE ENVISION:

A new school which includes:

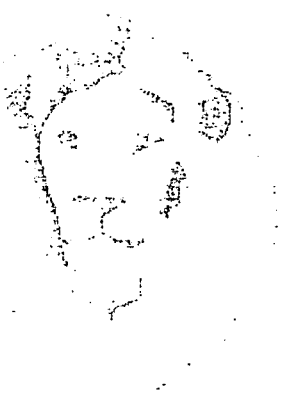
- A multimedia center adaptable for diverse groups and needs;
- Internet accessibility for all;
- Networking within school, homes, community, and the world;
- A technology team to trouble shoot, plan, train, and coordinate.

School personnel who:

- Are life-long learners;
- Are highly motivated;
- Offer innovative curriculum;
- Believe in student-centered learning;
- Are highly competent users of technology;
- Have developed appropriate assessment policies.

Students who:

- Are self-motivated;
- Are critical thinkers and problem solvers;
- Are prepared for the future;
- Have a positive self-image;
- Are life-long learners.



A community that:

- Values education;
- Promotes education;
- Supports education;
- Is involved in education.

IN SUPPORT OF OUR DISTRICT MISSION WE BELIEVE:

ABOUT STUDENTS AND LEARNING...

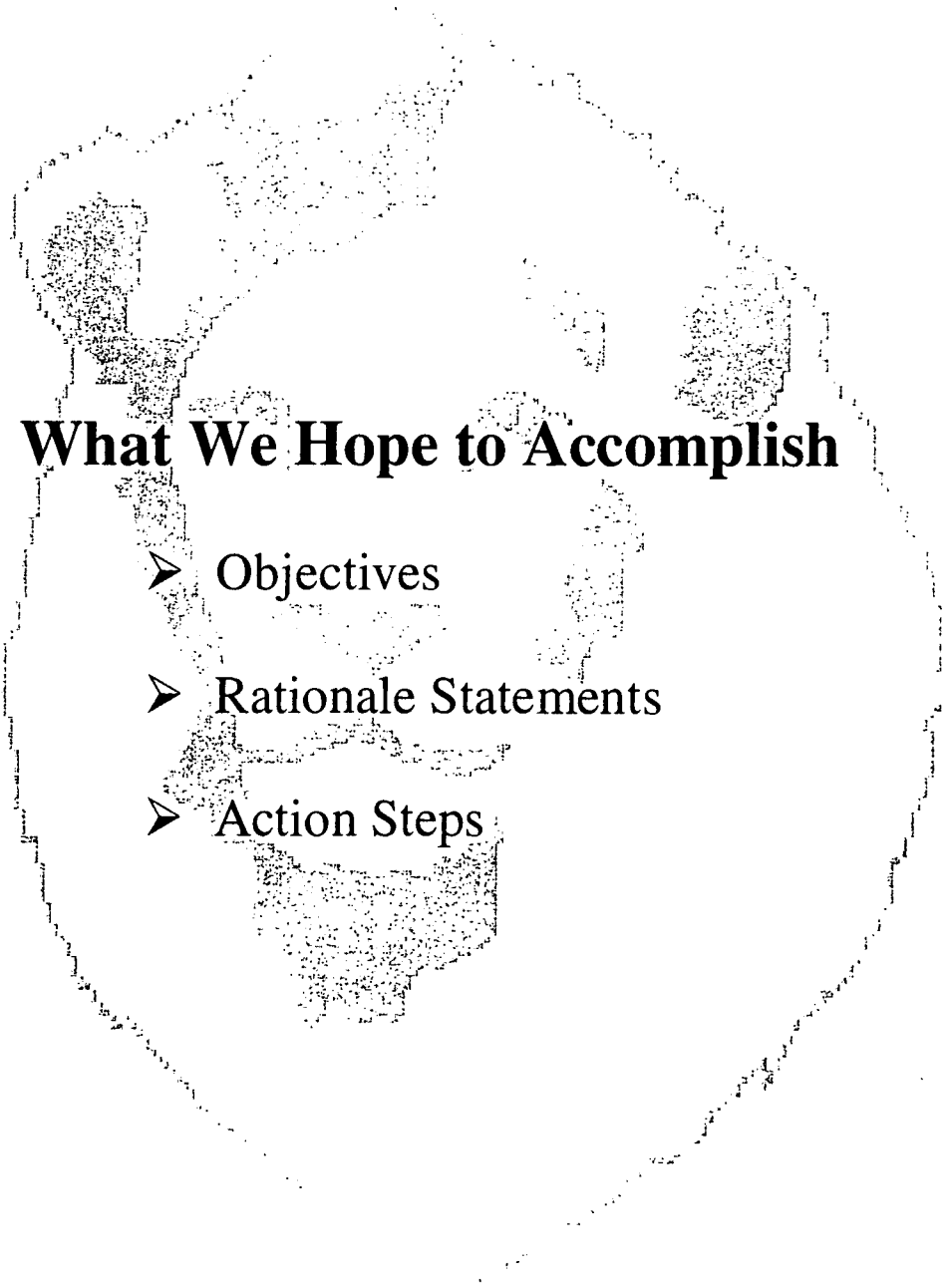
- That learning is enhanced in a positive, challenging, and safe atmosphere;
- That students should be responsible for their learning and accountable for their actions;
- That all students should have an equal opportunity to maximize their potential;
- That opportunities should be offered to build self-esteem, a positive attitude, and a feeling of success;
- That learning is a life-long process.

ABOUT TEACHERS AND TEACHING...

- That teaching is a commitment;
- That teachers are life-long learners who must be willing to adapt and be flexible;
- That teachers should be sensitive to the individual needs of all students;
- That teachers who are motivated and enthusiastic provide good role models;
- That the success of students can be measured in a variety of ways.

ABOUT THE LANGFORD SCHOOL DISTRICT...

- That parents and the community are partners in education with the Langford School District;
- That because we have students from three communities, strengths are drawn from each one;
- That the physical facilities need to be developed and advanced as well as the educational offerings;
- That our School District needs to promote a philosophy that our educational goals will help shape the future and continue to instill a sense of pride in our students and in our community;
- That open and accurate communication needs to exist among students, parents, school personnel, and the community to create and maintain an effective school district.



What We Hope to Accomplish

- Objectives
- Rationale Statements
- Action Steps

Langford Technology-Based School Improvement Action Plan Objectives

The following Objectives have been established to guide present and future initiatives as the Langford School District implements technology-based school improvement:

- Insure that students and staff have equitable access to technology for use in learning, instruction, management, and communication.
- Empower all district staff to effectively use technology to enhance instruction and increase productivity.
- Develop technology standards that guide the integration of technology throughout the curriculum.
- Provide digital telecommunications networks to enhance district-wide communication and information access.
- Establish district technology resource staff who will address and serve student, staff, curriculum, and infrastructure needs.
- Establish a community education program that provides access to current technology in support of a variety of adult education opportunities.
- Develop activities/events that allow the community to be actively involved in technology use in the school district and to be informed concerning the integration of technology in the classroom.
- Assess and measure the impact of technology on the learning environment and provide for the annual review, assessment, and revision of the technology action plan.

Objective A: **Insure that students and staff have equitable access to technology for use in learning, instruction, management, and communication.**

Equitable access to classroom tools and networking will increase teacher productivity. Technology should be an integrated part of every curriculum area, as well as having its own goals and objectives for training students in its use. All students need to use technology as a tool for effective communication, personal productivity, and lifelong learning.

A.1 Establish priorities for placement of existing computers in secondary classrooms and place computers in classrooms.

Resources:	IBM systems damaged in roof flooding - repaired through Goals 2000 funding/district budget. Additional hardware through district budget.
Who:	Team of secondary staff will establish priorities. (Computer teacher, three additional high school staff from three different subject/specialist areas, High School principal)
Time Line:	Placement beginning Spring 1997, organize High School team to establish priorities Fall 1998, recommendations made to School Board February 1998.
Evidence of Progress:	Document process used to establish priorities, as well as the priorities set. List computer placement of existing hardware in secondary classrooms.

A.2 Establish priorities for placement of existing computers in elementary classrooms (including Hutterite Colony), and place computers in classrooms.

Resources:	Goals 2000 grant purchases and district budget/Title/district media budget
Who:	Team *of elementary staff* will establish priorities. (Computer teacher, three additional elementary staff from three different grade levels, Elementary principal)
Time Line:	Placement beginning Spring 1997, organize High School team to establish priorities Fall 1998, recommendations made to School Board February 1998.
Evidence of Progress:	Document process used to establish priorities, as well as the priorities set. Current planning team recommends that the implementation of an elementary computer lab be a long term goal. List computer placement of existing hardware in secondary classrooms.

A.3 Develop a current, appropriate computer-to-student/teacher ratio based on staff projections of need, curriculum goals/objectives, hardware realities of the district and actual current usage.

Resources:	District planning budget Possible monthly late starts (Technology Tuesdays– still to be board approved for 1997-1998)
Who:	Proposal made by Leadership Planning Team, approved by administration, under consideration by board
Time Line:	Annually to inform budget decisions
Evidence of Progress:	Ratio established and used to update the acquisition/replacement and hardware, as well as used to assist in prioritizing technology placement for each school year.

A.4 Establish and implement a plan for preview/purchase of software, including upgrades and site licenses for current curriculum applications.

Resources:	District budget, late start days (proposed Technology Tuesdays)
Who:	Proposal made by Leadership Planning Team, approved by administration, under consideration by board
Time Line:	Plan in place Fall 1997, updated annually prior to software purchase under budget process
Evidence of Progress:	Software plan updated annually and used to prioritize and guide software purchase.

Objective B. **Empower all district staff to effectively use technology to enhance instruction and increase productivity.**

Implementing a staff development program will extend the boundaries of our learning environments by integrating a variety of teaching tools and strategies to support diverse student learning styles.

B.1 Evaluate needs, create and begin to implement a plan for strengthening staff skill and knowledge.

Resources:	District technology budget, Technology Tuesday (late start day)
Who:	District staff and technology team leadership (survey by leadership team)
Time Line:	Survey spring 1997, present needs and recommendations to administration then school board summer 1997
Evidence of Progress:	Documentation of needs survey and staff development offerings

B.2 Establish an ongoing survey mechanism to determine successful technology use.

Resources:	District staff development budget, Technology Tuesday (late start day)
Who:	Staff development planning team
Time Line:	Annually to assess staff development accomplished and direct future staff development
Evidence of Progress:	Begin with documenting frequency of use, add qualitative measures as appropriate

B.2 Explore and implement incentives for professional growth opportunities, including university credit, on-site visitations, workshops and conferences.

Resources:	State and university credit/certification options, local, regional, state, national conference offerings
Who:	Staff development planning team
Time Line:	1997-1998 school year
Evidence of Progress:	Begin with documenting frequency of use, add qualitative measures as appropriate

Objective C. **Develop technology standards that guide the integration of technology throughout the curriculum.**

Technology supports an active learning environment that encourages learning by doing. Technology can be used to build a project-based curriculum for both independent and collaborative learning environments. Technology promotes individualized learning that challenges every student.

C.1 Each teacher, or teaching team, will develop detailed plans (units of study) for the integration of technology into classroom learning experiences.

Resources:	Goals 2000 June planning days; board approved late start days during 1997-1998 school year, teacher planning time
Who:	All Langford staff who have teaching assignments; monitored by principals assigned to each staff member
Time Line:	Each teacher, or teaching team, will develop and share at least one integration plan during the 1997-1998 school year.
Evidence of Progress:	Principals will monitor completion and implementation of plans; teacher self-evaluation of plan success/challenges will be shared with appropriate staff; exemplary plans will be featured during presentations at TIE '98.

C.2 The Langford Computer Curriculum will be evaluated and revised on an annual basis. This includes both the classroom integration curriculum and specific computer course curriculum at the High School level.

Resources:	Curriculum planning district budget allowances
Who:	Appropriate elementary, secondary, and computer resource personnel
Time Line:	Annually prior to end of school year, beginning with current statement of computer goals and objectives for 1997 *
Evidence of Progress:	Revise and publish amended curriculum goals/objectives and course description/offerings prior to beginning of each school year

Objective D. **Provide digital telecommunications networks to enhance district-wide communication and information access.**

A district-wide network will improve communication among all district staff, facilitate interdisciplinary projects, and encourage the sharing of curriculum resources. Internet access will make global resources available to students and staff, while promoting multi-cultural exchange.

D.1 Complete the LAN within the district computer lab, including installation of administrative software.

Resources:	Goals 2000 funds, district budget.
Who:	Technology services technician, computer teacher
Time Line:	Summer, Fall 1997
Evidence of Progress:	Document completion of LAN within computer lab

D.2 Apply for the "Wiring the Schools" state initiative.

Resources:	State Wiring the Schools program;
Who:	Superintendent, Technology planning leadership team
Time Line:	Letter of inquiry about application in Spring 1997, follow-up as needed during Summer and Fall 1997
Evidence of Progress:	Addition of Langford School District to state waiting list; evidence of preparation for wiring in technology planning

D.3 Connect computer lab to the Internet.

Resources:	District budget purchases of proxy server, router, software, etc.; Goals 2000 consultant from TIE
Who:	Technology services technician, computer teacher
Time Line:	Fall 1997
Evidence of Progress:	Documentation of completion, network components and future plans

D.4 Connect classroom computers to network system.

Resources:	District budget, begin with networks for printing and expand as resources are available
Who:	Technology services technician, computer teacher, media specialist
Time Line:	Summer 1998 (depending on wiring approval/progress)
Evidence of Progress:	Documentation of planning, networking components in place and future plans for expansion

Objective E. **Establish district technology resource staff who will address and serve student, staff, curriculum, and infrastructure needs.**

Through the annual review and updating of technology-related personnel, adequate infrastructure and staff development support will be provided. New positions and job descriptions will be proposed to meet demands of new technology growth as well as district fiscal realities.

E.1 Establish a computer coordinator job description (Will include time and payment).

Resources:	District budget
Who:	Present computer coordinator and supervising administration.
Time Line:	Prior to May Board Meeting (2nd Monday) each fiscal year
Evidence of Progress:	Computer coordinator job description on file with appropriate administration.

E.2 Establish media specialist job description: (Recommend increasing half-time to full-time position)

Resources:	District budget
Who:	Karen, Janet, Sharon, Terry will arrive at a job description for Karen Olson, goes to administration for approval then to board at May meeting.
Time Line:	Prior to May Board Meeting (2nd Monday)
Evidence of Progress:	Media specialist job description on file with appropriate administration

E.3 Job description and contract for technology services technician. (Neil Stokke)

Resources:	District budget
Who:	Carol Raap, Neil Stokke, administrative representative
Time Line:	Prior to May Board Meeting (2nd Monday)
Evidence of Progress:	Job description and contract on file with appropriate administration

E.4 Review the number and type of technology support staff annually to ensure that the quantity and quality of support matches the demonstrated needs for training and ongoing assistance.

Resources:	Various documentation, surveys of staff needs, use of personnel, classroom uses
Who:	Technology team leadership, administration, technology support staff
Time Line:	Annually, prior to staff contract issue
Evidence of Progress:	Documentation of review and staff proposals to administration and school board.

Objective F: **Establish a community education program that provides access to current technology in support of a variety of adult education opportunities.**

Active involvement/interaction with the community in an ongoing educational process supports our belief that we are all life long learners. Providing training sessions in various technology applications for interested community members allows adults to experience the same technologies with which the students are engaged.

F.1 Conduct a community needs assessment to determine the educational needs of the community concerning technology.

Resources:	Community meeting to determine needs/areas of interest/levels of expertise, advertise in Langford Bugle, posters in area business
Who:	Goals 2000 Technology Leadership Team
Time Line:	May 1997, reassessed annually
Evidence of Progress:	Document meeting, document needs assessment results to use in future planning for adult education courses

F.2 Develop a schedule of adult education/community courses and instructors based on availability and the community needs assessment.

Resources:	Volunteer time of instructors and team members
Who:	At least two technology team members will be selected to provide leadership
Time Line:	Summer 1997 to organize with first courses offered Fall 1997
Evidence of Progress:	Documentation of courses offered and attendance at courses along with evaluation of courses.

F.3 Conduct adult education/community courses.

Resources:	School facilities at no cost, paid instructors (from course fees)
Who:	Instructors (decided during planning)
Time Line:	Begin course offerings Fall 1997
Evidence of Progress:	Documentation and evaluation of courses offered.

Objective G: **Develop activities/events which allow the community to be actively involved in technology use in the school district, and to be informed concerning the integration of technology in the classroom.**

Offering community access to school's technology is a valuable means of increasing awareness and understanding of gaining and maintaining commitment to the technology development within our school. Keeping all facets of our educational community informed strengthens the bonds of partnership needed to improve an effective school.

G.1 Organize and conduct an annual technology fair that showcases technology integration in the curriculum.

Resources:	School wide computers, staff responsibility, self-supporting with profits to a specific technology purchase fund.
Who:	Faculty, students, community resource people
Time Line:	Beginning school year 1997-1998, annually or as appropriate
Evidence of Progress:	Documentation of event and student/faculty/community projects demonstrated during event.

G.2 Develop guidelines for on-site access/use of district technology equipment.

Resources:	District technology equipment
Who:	Including, but not limited to: Computer teacher, media specialist, administrator
Time Line:	Plan in place Fall 1997
Evidence of Progress:	Documentation of plan and any required forms.

G.3 Develop and distribute information brochures or newsletters to inform the community of adult education and technology use options as well as technology related events and activities.

Resources:	Students through appropriate coursework requirements (journalism classes, student class representatives, grade 6 school newsletter staff), Staff and community as appropriate.
Who:	Appropriate group that needs to publish events/activities
Time Line:	Beginning Spring 1997 as needed
Evidence of Progress:	Archive appropriate information

Objective H. **Assess and measure the impact of technology on the learning environment and provide for the annual review, assessment, and revision of the technology action plan.**

An annual review of this technology plan shall be carried out in order to provide direction for both current and future technologies.

H.1 Establish a K-12 Technology Committee to guide the district in the implementation, revision, and expansion of the technology objectives outlined in this plan.

Resources:	District resources (Possible future implementation grants)
Who:	This committee will include, but not be limited to: school board representative, administrative rep., community representative from each of three communities, computer teacher, media specialist, elementary, secondary and specialist representatives.
Time Line:	Fall 1997
Evidence of Progress:	Documentation of team planning/implementation process and progress.

H.2 Develop tools to assess and measure the impact of technology on learning.

Resources:	Teacher self-assessment, curriculum planning teams, technology planning team
Who:	Sharron Osborne will provide leadership to begin process
Time Line:	Ongoing through district testing procedures, textbook adoption process
Evidence of Progress:	Documentation of tools developed and results of measurement

H.3 Establish guidelines for acquiring implementing, maintaining and replacing educational and administrative technology. (25-30% annual replacement policy)

Resources:	25%-30% annual replacement policy as recommended by current research (look up research if possible)
Who:	Technology planning team
Time Line:	Proposal prepared prior to annual budget meetings
Evidence of Progress:	Documentation of guideline presentation to administration and school board.

Documentation in Support of the Action Plan

- District Budget Expenditures 1994-1997
- Examples of Classroom Technology Use
- Technology Support Staff Job Descriptions
- Telecommunication/Networking Report and Recommendations

LANGFORD PUBLIC SCHOOLS

LARRY W. WATTIER, SUPERINTENDENT
Langford, South Dakota 57454
Phone (605) 493-6454

Fax (605) 493-6447

I. Resources expended for Technology Acquisitions for the School Years listed below for the Langford Public Schools, Langford, South Dakota.

1994-95:	6-13-94 MacIntosh Computer w/laserwriter	$3,042.00
	9-12-94 Six Computer Tables	847.50
	10-10-94Laser Disc Player	919.90
	11-14-94Six Compac Prolina Computers	7,704.00
	11-14-94Assorted Softwar Programs	1,126.00
		$13,639.40
1995-96:	10-9-95 McIntosh Computer	$ 1,199.00
	10-9-95 UMAX S-6 Scanner	795.00
	10-9-95 Two CAnon BJC Printers	788.00
	11-13-95HP Deskwriter 660 Printer	435.00
	11-13-95Memory Module	390.00
	11-13-95Assorted Software	$ 981.00
		$ 4,588.00
1996-97	8-12-96 HP 660C Printer	$ 308.00
	8-12-96 Home Ec Softward Pkg.	580.95
	9-9-96 2 Stack-3 Station Workplace	524.57
	9-9-96 2 MacIntosh Computers	3,598.00
	10-14-96 3 Internet Station Chairs	299.23
	10-14-96 8 Pentium Computers	10,350.50
	10-14-96 20 Secy Chairs-Computer room	1,839.00
	Budget for Softward-Title IV	1,727.05
	Budget for Assorted Software	1,500.00
		$20,727.30

The Langford Public School District has maintained a Student Population of approximately 235 students for the past 4 to 5 years.

II. Other School reform initiatives:

a. The Newport Hutterite Colony has been brought into the Langford Public School System as of the current 1996-97 School Year. This adds 32 students to the total enrollment.

b. Our staff has attended TIE Conferences, with the participants bring back information from those workshops, and sharing that information witht he staff at monthly staff meetings.

c. We have just recently been wired for the Internet, purchased a three station Internet center for the library, and wired 24 classrooms to install the internet. Updated two portable Personal Computers to be used as protable Internet Stations.

Langford School District
Examples of Current Classroom Technology Use

Subject Area: English
Activity: Term paper and speech research papers
Grade Level: 10-12
Technology Resources Used:
Internet, Encarta and Grolier Multimedia Encyclopedia
Reaction to use of resources (teacher/student):
Good place to find information!!! Students need to be discerning readers about information they find. Good alternative source for magazines. Barriers existed with limited or no access to Internet at school. Some students did access at home.

Subject Area: Science (Physics & Chemistry)
Activity: Graphing volume and temperature of a gas
Grade Level: 9-12
Technology Resources Used:
Spreadsheet
Reaction to use of resources (teacher/student):
First the class entered the information on graph paper, then on the computer. The students saw that the computer was much faster and simpler to use. The computer was more accurate because graphing errors were not possible.

Subject Area: Mathematics
Activity: Skill reinforcement in addition, subtraction, telling time
Grade Level: First
Technology Resources Used:
Content specific skill reinforcement software
Reaction to use of resources (teacher/student):
Good way to strengthen the skills. The students enjoy working the problems on the computer.

Subject Area: Social Studies
Activity: Research South Dakota people, symbols and government
Complete reports, letters, headings and captions for SD scrapbook using a word processor
Grade Level: Fourth
Technology Resources Used:
Internet, word processing software
Reaction to use of resources (teacher/student):
Internet access was too slow and not reliable enough to count on. Material found was "accidental". Children enjoyed using the Internet and the word processor. The word processing made the scrapbook much nicer. Students were very creative with the fonts and sizes!

Subject Area: Spelling, Mathematics
Activity: Skill reinforcement – spelling and math combinations
Grade Level: Third
Technology Resources Used:
Content specific skill reinforcement software
Reaction to use of resources (teacher/student):
The once a week computer math lab enabled children to become more familiar with computers and more willing to become risk takers. Children enjoyed our labs and were willing workers at whichever task we placed before them.

Subject Area: Language Arts
Activity: Create a poster using a work processor
Grade Level: Sixth
Technology Resources Used:
Word processing application
Reaction to use of resources (teacher/student):
Fun activity! The students enjoy exploring with the computer and all its various functions.

Subject Area: Computer II - Advanced
Activity: Use of Microsoft "Picture It" to import graphics from other sources to make a document of student choice
Grade Level: High School
Technology Resources Used:
"Picture It" application software, scanner
Reaction to use of resources (teacher/student):
The final projects were awesome! Students were problem solvers with equipment and limited resources. Some created cards for family or friends. Students now come in to use the application when needed for other projects.

Subject Area: Business/computers
Activity: Create a multimedia presentation about General Business topics as covered in the Wall Street Journal
Grade Level: High School
Technology Resources Used:
PowerPoint
Reaction to use of resources (teacher/student):
Students were concerned about adequate coverage of the article, demonstrated a good concept of PowerPoint. I (the teacher) learned a great deal – creating an assessment is challenging – we did it after the fact – needs to be before. Students prepared an assessment to grade this entire assignment. Also did an evaluation on the assessment. It was a great learning experience for ALL of us!

Subject Area: Mixed Chorus/Music
Activity: Learning parts for the "The Pledge of Allegiance"
Grade Level: High School
Technology Resources Used:
Kurtzweil Mark 10 Electronic Piano
Reaction to use of resources (teacher/student):
Students felt more comfortable learning parts, therefore singing out more. It was an opportunity for me (the teacher) to get out from behind the piano and hear what was going on – the parts being learned. The students were impressed by the technology and are currently training on the piano to be able to use it themselves.

Subject Area: Art/Home Economics
Activity: To acquaint students with Internet museum locations; to investigate the student's favorite artist and use the artist's style in an acrylic composition.
Grade Level: High School
Technology Resources Used:
Internet
Reaction to use of resources (teacher/student):
Example of one student's experiences: Artist researched was Salvador Dali. Found the Salvador Dali Museum in St. Petersburg and printed copies of several paintings. Dali's history was found at the Texas University site. The search was frustrating at first because of the slow connection, but the result of the search was thrilling!

LANGFORD PUBLIC SCHOOL
Langford, South Dakota

School Library Media Specialist Job Description

Mission statement

The mission of the library media specialist is to provide the human link necessary to ensure that students and staff are effective users of ideas and information.

Information Specialist

*Establishes library media center policy and procedures consistent with district goals and mission statement.
*Demonstrates a knowledge of the school collection and external resources.
*Makes purchases to enhance the curriculum and to meet the need of the school community for leisure reading.
*Maintains complete and accurate records of all library media center holdings.
*Supervises and maintains all ongoing and daily functions of the school library media center.
*Assures access to print and technological resources by providing an accurate and efficient retrieval system.
*Continually evaluates the collections and programs in terms of the needs of the students and staff.

Teacher

*Participates in cooperative planning and teaching.
*Plans with teachers and team teaches cooperatively whenever possible.
*Instructs students on a formal and informal basis in skills related to reading, research, production of materials and the use of information and instructional technologies.
*Works to ensure the integration of research skills throughout the schools' instructional program.
*Cultivates life-long learning by fostering positive attitudes toward libraries and by working to develop students' viewing, listening and critical thinking skills.
*Promotes reading and literature appreciation through such activities as booktalks, storytelling, displays and special events.
*Serves as a resource consultant for teachers, providing ideas and materials for classroom curriculum.

Instructional Consultant

*Assists students and teachers in the use of the collection and technology in the media center.
*Promotes reading and encourages the use of well-written materials.
*Invites suggestions and recommendations from teaching staff about the materials and services the program provides.
*Makes resources available to students and teachers through a systematically developed and organized collection of library media materials, supplemented by cooperation with public libraries and other resources available outside the school.
*Provides access to information and ideas by assisting students and staff in identifying information.

Conclusion

Library Media Specialists maintain a leadership role as schools move into the next century with school media centers serving as the core of an active learning program.

TECHNOLOGY TECHNICIAN

This position is responsible for maintaining all technical equipment in a condition of operating excellence and safety so that full educational use can be made of the equipment and to assist the technology staff in any capacity whenever the need arises.

District Management

Assist in the initial installation of networks, hardware, and software.

Assist in the supervision of the network to insure its smooth and efficient operation.

Provide technical assistance on computer applications.

Inspect all computers on a periodic basis and confer with administrators as to repair.

Cooperate with the Computer Coordinator to establish guidelines for minor in-school repairs and emergency repair.

Assume responsibility for the safe condition of computers, electrical apparatus, fixtures, wiring, printers, cd-rom, and similar technologies.

Recommend supplies and equipment for support of maintenance projects and maintain an inventory of district owned tools and equipment.

Assist in establishing and maintaining current inventory of all hardware and peripherals in the district.

Assist in review and updating acquisition procedures and plans.

Computer Technology Specialist

Network Administration

1. Assist with general maintenance to keep network running smoothly.
    - *Monitor disk space
    - *Regular backup
    - *Software availability and update
    - *Addition/removal of staff/student users
    - *Set up new workstations, print stations
    - *Train new personnel in e-mail, data exchange, hardware/software

2. Assist with diagnosing and fixing of network problems.

3. Assist with coordination of computer and network-related repair requests.

Software Administration

1. Assist with inventory of all available software.

2. Assist with the preview, recommendation, and selection of software for possible purchase and use for instructional programs.

3. Assist with previewing software upon arrival for possible damage.

4. Assist with installation of software where needed and provide information, assistance and training to users (staff and students) for incorporation into instruction.

5. Assist with providing additional assistance and troubleshooting when software in not working as expected or with the extension of software into other areas of the curriculum.

6. Share current information on new products available in the field of educational technology.

7. Assist teachers with implementation of adopted district software as outlined in curriculum guides.

Hardware Administration

1. Assist with record keeping function of hardware locations, quantities, types and required repairs.

2. Assist with recommendations where future purchase and/or replacement of hardware is necessary.

3. Assist with maintenance of hardware.

Other

1. Assist in planning future goals, needs, expenditures, and implementation of district technology plan at school level.

2. Attend local/regional training/informational sessions on technological advances.

3. Customize training for school and community technology education.

4. Assist in designing and organizing technology fairs.

Langford School District
Technology Assessment
Telecommunications/Networking
Report and Recommendations

The way in which students are taught and the educational environment they experience is evolving into a world of information and enhanced communications exceeding well beyond the four walls of our daily classrooms. This evolution into the Communications Age necessitates that steps are taken and plans are prepared to enhance our learning environment to meet the needs and challenges faced by all of us, teachers and students alike, that are experiencing this incredible change in our society. To take full advantage of the opportunities this evolution presents, we must find ways to more easily communicate with the rest of the world and share the abundance of educational resources being made available.

The first step in sharing resources and enabling computer-mediated communications is through connecting our resources, or networking. Shared resources could be as simplistic as the printers that are currently shared via existing AppleTalk networks in your labs and HS library or as sophisticated as the entire Educational Resources Information Clearinghouse (ERIC) residing on a file server on the campus of Syracuse University. Networking will also establish a direct communications link between the Langford School District and the global educational community at large. To ensure that these two primary educational advantages are realized in the near future, a discussion of the steps necessary for establishing a district-wide network is essential in any long-range planning effort.

Networks are typically categorized in terms their size or encompassed area. A network could be as small as two or three computers or a lab of computers interconnected, or as large as a city-wide network of devices. The latter is commonly referred to as a wide-area-network (WAN) with the smaller known as a local-area-network or LAN. With the recent emphasis toward networking, new classifications and acronyms are common, however for our purposes the concept of a local-area-network will suffice. **A logical and realistic goal for Langford would be to immediately begin acquiring multimedia computers and establishing smaller LANs of multimedia capable computers in each school lab and/or library which would eventually extend to every classroom and office within the school boundaries as more hardware is purchased.**

Just determining that a network extending to every classroom is not enough however, the method by which those connections are established and the number of connections (network drops) made available to each room are factors of primary importance in planning process. Without question, the logical layer protocol (or standard of data transmission) most commonly used in networks today is Ethernet. Ethernet provides benefits in speed, reliability, and flexibility that other protocols such as LocalTalk, TokenRing and others don't afford. An Ethernet network can be run over several data carrying mediums including standard copper wire, coaxial cable, or fiber, each of which contributes to variable factors such as transmission distance, termination devices, cost, etc. Again the standard commonly followed today is to implement the Ethernet network over Category 5 cabling (twisted-pair copper wire). Category 5 cable differs from the wire commonly used to connect our phone lines (Cat 3) by virtue of an additional two pairs of twisted wire. The advantages seen through the additional wires is two-fold, not only does this allow the cable to be multi-functional (data and voice) but more importantly it opens a channel of greater data bandwidth resulting in increased throughput or speed. This greater bandwidth will become more important in future years when Fast-Ethernet standards become cost effective or new technological advancements emerge.

Addressing the issue of network drops per classroom is subjective to the individual needs in each room. Whereas a computer lab could require one connection per computer, it is more likely that network connections would be shared by small numbers of computers via hubs. In a classroom environment where very few computers reside, the "magic" number of connections is unknown. In a perfect world we would love to see one computer per student and therefore one network connection as well. However at any given time there may be as many as 20 students in a single room which would necessitate as many connections. Obviously, limited space and money rule out any such notion. Therefore our best approach again is to learn from what others are implementing and we can draw upon two such examples. First, South Dakota's own statewide Wiring the Schools Initiative has determined that an adequate number of total connections in any school is 75% of the total student enrollment. With this figure they plan to wire up to as many as 8 network drops in some classrooms with the remainder found in the libraries, labs, administrative offices, etc. In contrast, the nationwide volunteer effort to wire local schools known as NetDay '96, suggests at least two network drops per classroom. This discrepancy illustrates the uncertainty of our immediate needs and future demands. The sensible approach for any extended network design is to make sure that every classroom has at least one or more connections without surpassing reasonable budget constraints as determined by your local technology planning committee.

Once the basis for a building wide Ethernet network is established as a cost effective measure for improving the uses of existing educational technology, a thorough and strategic network design by a qualified Systems Engineer is required. This design would include all elements needed to install and maintain a network that not only meets building safety codes but also allows for future revision and expansion if needed. Though the design process could be accomplished by other means, we would strongly encourage any cost saving measures be explored during the implementation of any such design.

The implementation phase could be realized in one of two ways. First, if the installation of the network is determined to best be accomplished by a business such as a computer networking firm, then a complete set of bid specifications would be essential to assure proper procedures and materials are used. The alternative is to organize a local effort of volunteers to provide expertise and workmanship necessary for installing the network. Many districts around the United States are finding local electricians and volunteers from other professions in their midst that are enthusiastic about the opportunity to aid their community and school with their time and expertise. More information concerning how to rally the support necessary and organize such an effort can be acquired from the NetDay '96 organization and web site at: http://www.netday96.com

Once the installation of a building wide local-area-network is complete, the advantages of enhanced communications and access to a world of shared educational resources as described earlier can begin to be realized. Acquiring a suitable contract with an Internet Service Provider (ISP) to gain access to that world of information is the final missing link. The charges incurred for that access would be determined primarily by the amount of bandwidth needed and the length of the service contract agreed upon. As always in a rapidly changing technological environment, it is desirable to keep the length of any such contract to a minimum, thus insuring future growth possibilities and competitive rates.

To take full advantage of the process undertaken to network computer workstations throughout the district, consideration should be given to concurrently running cable for telephone and television access into each classroom. To achieve total network connectivity, every classroom should have avenues for voice, data, and video transmission just as our other primary learning environment, our homes, currently exhibit. Since the primary cost of acquiring total network connectivity is associated with the installation of those lines, it can be a cost effective decision to run all wires simultaneously, even if the resources to take advantage of the infrastructure are not yet in place.

Establishing a networked infrastructure in the Langford School District should be viewed as a vital and necessary component in the planning process. The payoff to a detailed and comprehensive plan is the ability and capacity to offer students of Langford educational opportunities beyond their typical classroom walls. A school where worldwide communications and information is accessible from any computer at any time will encourage continued growth and ensure that students from the community will prosper in a changing economic and social climate. Obviously to see the vision of Langford's networked resources to completion, many barriers must be overcome and steps put into action now to build for the future.

Your district's primary focus should be to surplus existing outdated computers and acquiring newer multimedia and Internet capable workstations. Adding new machines to those already in your labs and classrooms will provide the platform necessary for the implementation of a district-wide network. This priority should not in any way detract the district from proceeding with plans for such a network.

Gerald Raymond
Telecommunications Specialist

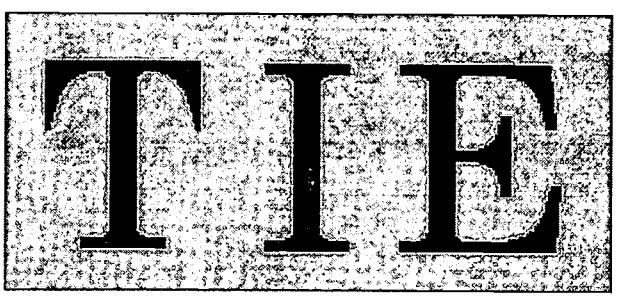
Technology

Strategic Action Plan

for the

Sioux Valley

School District



April 1997

The Sioux Valley School District engaged in extensive technology planning during the 1996-97 school year. This broad-based planning effort included participation from teachers, administrators, school board members, community members, parents, and students. The conversation and dialogue that took place during the past year has helped create a focused vision for the role technology plays in educating the students of your school district.

This document reflects the work and vision of your school district and community. While this document is important, it is the *process* that went into making this document that provides the most value to your district. Technology planning is an ongoing process. It is critical that your technology committee continues to meet on a regular basis so your technology plan and vision can be continuously revised and updated to reflect new and emerging technologies.

As you read through this document there are three considerations to keep in mind. First, the top priority for your school district is to create a school-wide computer network. Your district was fortunate this school year to have extensive wiring completed through the South Dakota Wiring the Schools project. Through this project you received over 450 computer drops. Now that the wiring is in place, the next step is to create your network. In order to do this, you will need networking hardware and software. Also, having a full-time technology coordinator is critical to establishing and maintaining your computer network.

Second, staff development is a major component for moving technology forward in your school district. Business spends between 30 and 40 percent of their technology budgets on staff development. They realize having employees with technology skills and experiences is a key to getting maximum value out of technology hardware. Technology is nothing more than a tool. But combine technology with well trained teachers, and it becomes a powerful tool that changes and improves student learning.

Finally, just as technology plays a major role in our society, technology also plays a major role in our school. Technology is more than a subject area that is taken care of by a computer teacher. Technology plays a role in our entire school district. It impacts every student, every class, and every teacher. Because of the vital role technology plays in educating our students, it is important that your school district embraces technology as a core value. By embracing technology as a core value, technology becomes an ongoing priority for your school district. This will ensure that your district continues to move forward into the twenty-first century.

Sioux Valley School District
Strategic Action Plan
Executive Summary

Goal 1: The Sioux Valley School District will use technology to enhance student learning in all K-12 classes.

Rationale: Technology plays two roles in the curriculum of our school district. First, technology is a class (skill) that needs to be taught to all students. That is why we have computer classes, computer labs, and computer teachers. Second, technology is a tool that enhances student learning in all other curriculum areas. That is why we want technology accessible in all classrooms. It is also why we want staff with strong technology skills so they can use technology with students when it is appropriate in classroom situations.

Goal 2: The Sioux Valley School District will maintain a technology infrastructure (hardware, networking, & software) that will give students access to technology resources that enhance curriculum goals of the school district.

Rationale: Students should have access to technology as a part of their education experience in our school district. This technology infrastructure should include access to hardware and networking, as well as resources on that network such as software, Internet, and e-mail. These technologies should be tools that students use to improve their learning of curriculum goals set forth by our school district.

Goal 3: The Sioux Valley School District will encourage and promote appropriate use of technology for all employees.

Rationale: Technology is the responsibility of every school district employee. This is important because technology enhances student learning and technology experiences prepares students for the world they will face after graduation. Even though employees all have a different role with technology (administration, technology coordinator, computer teacher and classroom teacher), technology is an important component of all school district job descriptions.

Goal 4: The Sioux Valley School District will provide staff development opportunities for all employees.

Rationale: Staff development is the component that makes technology come to life for students in a meaningful way. Staff development ensures that district technology purchases are utilized to their full potential. There are two types of staff development that are important for our school district. First, we need all classroom teachers to feel comfortable and be proficient in using technology with their students. Second, we need to have a group of technology leaders (technology committee) that maintains a fresh and relevant vision for where technology is moving and how it fits into the mission of our school district.

Goal 5: The Sioux Valley School District is a community resource that promotes life-long learning for all members living in our community.

Rationale: Since our school district is a resource for members of our community, it is important to have connections between the community and school district. These connections include having community members involved in planning the future of our school as well as our school providing services to members of our community. Our vision is to have school resources and facilities used by all members of our community.

Strategic Action Plan

Goal 1: The Sioux Valley School District will use technology to enhance student learning in all K-12 classes.

Rationale: Technology plays two roles in the curriculum of our school district. First, technology is a class (skill) that needs to be taught to all students. That is why we have computer classes, computer labs, and computer teachers. Second, technology is a tool that enhances student learning in all other curriculum areas. That is why we want technology accessible in all classrooms. It is also why we want staff with strong technology skills so they can use technology with students when it is appropriate in classroom situations.

1.1 Technology coordinator will work with individual K-12 teachers to use technology when appropriate in all curriculum areas.

Resources:	District curriculum budget.
Who:	Technology coordinator and all teachers.
Time Line:	Fall - 1997. Ongoing.
Evidence of Progress:	Technology coordinator will document progress with classroom teachers.

1.2 Technology will be considered when revising other curriculum areas.

Resources:	District curriculum budget.
Who:	Curriculum committees and technology coordinator.
Time Line:	Ongoing.
Evidence of Progress:	Curriculum committees will make recommendations to teachers, administration, and school board.

1.3 The district will increase the use of all three computer labs by other curriculum areas.

Resources:	District resources.
Who:	Administration.
Time Line:	Fall - 1997.
Evidence of Progress:	Administration will work with classroom teachers to document the use of computer labs.

1.4 The district K-12 technology curriculum will be revised and updated. This will include moving keyboarding and word processing to lower grades and teaching advanced technologies such as the Internet and multimedia in high school. See page 13 for specific curriculum.

Resources:	District curriculum budget.
Who:	Technology committee.
Time Line:	Start in Fall - 1997. Ongoing.
Evidence of Progress:	Technology committee will make recommendations to school board about tech curriculum and class changes.

1.5 The district will invite community members to visit school to tell students about how they use technology in their jobs and lives.

Resources:	District resources.
Who:	All staff.
Time Line:	Ongoing.
Evidence of Progress:	Staff will document student response to speakers.

1.6 Student assistants will be assigned to computer labs to assist teachers and students using the labs.

Resources:	District resources.
Who:	Administration and computer teachers.
Time Line:	Fall - 1998.
Evidence of Progress:	Computer teachers will document progress.

Goal 2: The Sioux Valley School District will maintain a technology infrastructure (hardware, networking, & software) that will give students access to technology resources that enhance curriculum goals of the school district.

Rationale: Students should have access to technology as a part of their education experience in our school district. This technology infrastructure should include access to hardware and networking, as well as resources on that network such as software, Internet, and e-mail. These technologies should be tools that students use to improve their learning of curriculum goals set forth by our school district.

2.1 Purchase and install the hardware (fileserver, router, CSU/DSU, hubs, etc.) necessary to establish a school-wide computer network.

Resources:	Capital outlay budget.
Who:	Technology committee.
Time Line:	Summer - 1997.
Evidence of Progress:	New computer network is ready to use at the start of the 1997-98 school year.

2.2 Bring a T1 frame-relay connection into your school district. This will provide all computers connected to your network with Internet access.

Resources:	Instructional budget.
Who:	Technology coordinator and US West.
Time Line:	Summer - 1997.
Evidence of Progress:	Technology coordinator will work with US West to have connection in place by the start of school.

2.3 Each classroom will have a computer connected to your school-wide network. This will provide each classroom with Internet and e-mail access.

Resources:	Capital outlay budget.
Who:	Technology coordinator and administration.
Time Line:	Summer - 1997.
Evidence of Progress:	Each classroom will have a computer connected to the network by the start of school.

2.4 Establish a high-end high school computer lab that can be used for Internet and multimedia. This will include purchasing 13 new computers to put with the 13 newest computers you currently have. Each new computer will have at least a 200 MHz processor, 36 MB RAM, 1 GB hard-drive, and a CD-ROM drive.

Resources:	Capital outlay budget.
Who:	Technology coordinator.
Time Line:	Summer - 1997.
Evidence of Progress:	New high school computer lab is ready to use at the start of 1997-98 school year.

2.5 Purchase a new Windows-based high school computer lab. This lab will consist of at least 25 computers and a laser printer. This computer lab will provide high school students experience using Windows and Windows-based applications.

Resources:	Capital outlay budget.
Who:	Technology committee.
Time Line:	Summer - 1998.
Evidence of Progress:	New high school computer lab is ready to use at the start of 1998-99 school year.

2.6 Establish remote access to your school computer network so teachers can access your network from home.

Resources:	Capital outlay budget.
Who:	Technology coordinator.
Time Line:	Summer - 1998.
Evidence of Progress:	Teachers will access your school computer network from their homes by start of 1998-99 school year.

2.7 Purchase 25 computers to begin replacing Macintosh LC I/II computers.

Resources:	Capital outlay budget.
Who:	Technology committee.
Time Line:	Summer - 1999.
Evidence of Progress:	New computers are ready to use at the start of the 1999-2000 school year.

2.8 Add a CD-ROM tower and networked software to your computer network to provide more network resources for your students.

Resources:	Capital outlay budget.
Who:	Technology committee.
Time Line:	Summer - 1999.
Evidence of Progress:	New network resources are ready to use at the start of the 1999-2000 school year.

2.9 Purchase 25 computers to finish replacing Macintosh LC I/II computers.

Resources:	Capital outlay budget.
Who:	Technology committee.
Time Line:	Summer - 2000.
Evidence of Progress:	New computers are ready to use at the start of the 2000-2001 school year.

2.10 Establish remote access to your school computer network so students can access your network from home.

Resources:	Capital outlay budget.
Who:	Technology coordinator.
Time Line:	Summer - 2000.
Evidence of Progress:	Students will access your school computer network from their homes by start of 2000-2001 school year.

Goal 3: The Sioux Valley School District will encourage and promote appropriate use of technology for all employees.

Rationale: Technology is the responsibility of every school district employee. This is important because technology enhances student learning and technology experiences prepares students for the world they will face after graduation. Even though employees all have a different role with technology (administration, technology coordinator, computer teacher, and classroom teacher), technology is an important component of all school district job descriptions.

3.1 Technology committee continues to meet on a regular basis to provide direction and leadership for our school district.

Resources:	District resources as needed.
Who:	Technology committee consists of administrators, school board members, community members, computer teachers, and representation of elementary and secondary teachers.
Time Line:	Ongoing (Monthly meetings as needed).
Evidence of Progress:	Document meetings so progress can be shared with staff, community, and school board.

3.2 Establish a full-time technology coordinator. This person is responsible for establishing and maintaining your school-wide computer network. They will also work with individual teachers to incorporate technology into classroom instruction.

Resources:	District salary resources (10 month position).
Who:	Tamara Schmidt.
Time Line:	Summer - 1997.
Evidence of Progress:	Administration & tech committee will review annually the priorities & job description for this position.

3.3 Administration will encourage staff members to use computers and the new computer network to do administrative tasks such as announcements, attendance, and grading.

Resources:	District resources.
Who:	Administration and technology coordinator.
Time Line:	Fall - 1997.
Evidence of Progress:	Administration & tech coordinator will document staff use of computer network.

Goal 4: The Sioux Valley School District will provide staff development opportunities for all employees.

Rationale: Staff development is the component that makes technology come to life for students in a meaningful way. Staff development ensures that district technology purchases are utilized to their full potential. There are two types of staff development that are important for our school district. First, we need all classroom teachers to feel comfortable and be proficient in using technology with their students. Second, we need to have a group of technology leaders (technology committee) that maintains a fresh and relevant vision for where technology is moving and how it fits into the mission of our school district.

4.1 Technology committee will visit neighboring school districts, such as Beresford, that are using technology in an exceptional way.

Resources:	District inservice budget.
Who:	Technology committee.
Time Line:	Ongoing.
Evidence of Progress:	Technology committee will document findings and share them with staff, school board, and community.

4.2 Technology committee will attend state and regional technology conferences such as the SD Telecommunications Forum held September 30-October 2, 1997 in Mitchell and the TIE Conference held in Sioux Falls April 5-7, 1998.

Resources:	District inservice budget.
Who:	Technology committee.
Time Line:	Ongoing.
Evidence of Progress:	Technology committee will document findings and share them with staff, school board, and community.

4.3 Technology coordinator will attend technical classes to acquire skills to establish and maintain school computer network.

Resources:	District inservice budget.
Who:	Tamara Schmidt.
Time Line:	Ongoing.
Evidence of Progress:	Document progress of school computer network.

4.4 Purchase a TIE membership to help technology committee stay current with new and emerging technologies.

Resources:	District inservice budget.
Who:	Technology committee.
Time Line:	Annually.
Evidence of Progress:	Technology committee will document findings and share them with staff, school board, and community.

4.5 Technology coordinator will work with classroom teachers on an individual basis during the school day and will conduct group inservice with staff before school and/or after school.

Resources:	District resources as needed for subs.
Who:	Tamara Schmidt.
Time Line:	Ongoing.
Evidence of Progress:	Administration & tech committee will review annually the progress and priorities of this process.

4.6 Entire staff will attend a full-day inservice to learn how to use the new school-wide computer network. This inservice will include instruction on using e-mail and Internet resources.

Resources:	District inservice budget.
Who:	Entire staff.
Time Line:	October 10, 1997.
Evidence of Progress:	Staff will document findings and share them with each other, school board, and community.

4.7 Entire staff will attend state and regional technology conferences such as the Northeast Regional Inservice held in Watertown February 13, 1998 and the TIE Conference held in Sioux Falls April 5-7, 1998.

Resources:	District inservice budget.
Who:	Entire staff.
Time Line:	Ongoing.
Evidence of Progress:	Staff will document findings and share them with each other, school board, and community.

4.8 Six staff members will participate in the US West Telecommunications project. This experience will provide staff members an opportunity to explore the use of telecommunications resources for classroom instruction.

Resources:	District inservice budget and US West grant.
Who:	Six selected staff members.
Time Line:	Fall - 1997
Evidence of Progress:	Staff will document learning and growth during the project.

4.9 The school district will develop technology proficiencies that all staff members will be responsible for. Staff inservice will be provided to help individual staff members reach these proficiencies.

Resources:	District inservice budget.
Who:	Technology committee.
Time Line:	Fall - 1998
Evidence of Progress:	Technology coordinator will document the progress of this process.

Goal 5: The Sioux Valley School District is a community resource that promotes life-long learning for all members living in our community.

Rationale: Since our school district is a resource for all members of our community, it is important to have connections between the community and school district. These connections include having community members involved in planning the future of our school as well as our school providing services to members of our community. Our vision is to have school resources and facilities used by all members of our community.

5.1 Technology committee continues to include community members and school board members.

Resources:	District resources as needed.
Who:	Technology committee consists of administrators, school board members, community members, computer teachers, and representation of elementary and secondary teachers.
Time Line:	Ongoing (Monthly meetings as needed).
Evidence of Progress:	Document meetings so progress can be shared with staff, community, and school board.

5.2 Technology awareness events are held for parents, community members, and school board members such as PTA, parent-teacher conferences, half-time of basketball games, etc.

Resources:	District resources as needed.
Who:	Technology committee & classroom teachers.
Time Line:	Ongoing.
Evidence of Progress:	Document involvement of parents, community members, and school board members.

5.3 Evening education classes will be offered to the community. This will be done in cooperation with the Multi-District in Brookings.

Resources:	District resources as needed.
Who:	Technology coordinator.
Time Line:	Ongoing.
Evidence of Progress:	Document involvement of parents, community members, and school board members.

5.4 School computer lab will be opened to the community to provide Internet access.

Resources:	District resources as needed.
Who:	Technology committee.
Time Line:	Ongoing.
Evidence of Progress:	Document involvement of parents, community members, and school board members.

Sioux Valley School District
K-12 Technology Curriculum
1997-98 School Year

- K-6 Technology enhances curriculum areas such as math & reading
  Introduction to Internet & Multimedia
  Begin keyboarding instruction
- 7 Keyboarding (semester)
- 8 Advanced keyboarding (semester)
- 9 Word processing, data base, spread sheet (semester)
  Internet - Advanced (semester)
- 10-12 Multimedia - Advanced (semester) elective
  Programming (semester) elective

Ideal Computer Distribution

# Computers	*Location*
25	High school/middle school computer lab #1
25	High school/middle school computer lab #2
25	Elementary computer lab
44	Classrooms
15	Library
10	Offices
144	**Total**

6-year cycle (144 / 6 = 24 computers)

Your district needs to purchase at least 24 computers every year.

Sioux Valley School District
Hardware/Networking Purchases
1997-98 School Year

Number	*Item*	*Cost*
1	File Server (6 GB hard-drive/128 MB RAM)	$5,500
2	Battery Back-Up	$500
1	Site License/Networking & E-mail Software	$6,000
13	Macintosh Power PC	$26,000
1	Digital Camera	$550
2	Converters (fiber to wire/wire to fiber)	$1,600
	Memory Upgrades & Ethernet Cards	$11,500
2	Switched Hubs (for computer labs)	$5,200
4	Regular Hubs	$6,400
	Total	**$73,250**

Timeline and Budget for Hardware/Networking

Year 1 (1997-98 school year):

•Networking hardware & software		$73,250
	Total	**$73,250**

Year 2 (1998-99 school year):

•Purchase IBM compatible computer lab (25 computers)		$67,000
	Total	**$67,000**

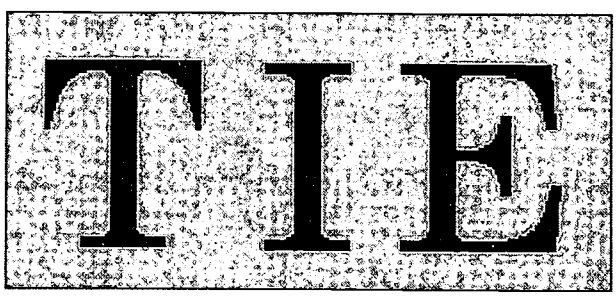
Year 3 (1999-2000 school year):

•Purchase 25 computers (replace Mac LC I/II)		$50,000
•CD-ROM tower & networked software		$17,000
	Total	**$67,000**

Year 4 (2000-2001 school year):

•Purchase 25 computers (replace Mac LC I/II)		$50,000
•Establish remote access for students from home to school		$17,000
	Total	**$67,000**

Technology, Teaching & Learning Assessment for Sioux Valley School District



October 1996

Introduction

The Sioux Valley School District has a rich history of providing quality, cutting-edge technology experiences to its students. As early as 1980, Sioux Valley purchased a Radio Shack TRS-80 computer. This computer was used to teach students BASIC programming in the first computer class offered in your district. In 1981, Sioux Valley purchased its first Apple IIe computer at a cost of over $5,000. Over the next several years, dozens of Apple IIe computers were placed in various locations throughout your district. As computer technology continued to move forward, you replaced your Apple IIe computers with Macintosh computers. You now have 116 Macintosh and 10 IBM computers in your school district. This gives you a computer for every 5.3 students. As a result, all of your students have meaningful, relevant technology experiences on a regular basis. For 16 years, Sioux Valley has made a commitment to provide technology opportunities for its students.

One of the major reasons that your district has been able to make a long term commitment to technology is the fact that you have school board members, community members, administrators, and teachers all working together. There is a spirit of cooperation between these groups with a shared understanding of the importance of having appropriate technology tools available for your students. You are fortunate to serve progressive communities that observe how significantly technology is impacting our society and the workplace. You are just as fortunate to have three administrators that promote and model appropriate use of technology in your school. And certainly, your teachers are among the finest in the state. They constantly strive to provide the best learning experiences possible for your students. You are fortunate indeed to have teachers, administrators, school board members, and community members that are moving forward together with a shared vision of the future.

Your district has a long tradition and commitment to technology. As a result, your district was chosen this past summer as one of six recipients of the South Dakota Goals 2000 Technology Planning Grant. During this school year, grant resources will be used to engage your district in technology planning that will include this initial assessment as well as a process for developing a 3 to 5 year Strategic Action Plan. Also, grant resources will be used to provide meaningful inservice opportunities for your staff. It is important to note that decisions for this grant will be made at the local level and will support the vision and direction that you are moving with technology in your district. This grant provides valuable resources to move your district forward with technology planning and staff development. It is a pleasure for TIE to be involved with you in this process. As a partner with you in this grant, TIE will do everything possible to assist you in positioning technology in your district as a powerful teaching and learning tool.

This initial assessment provides you with TIE's observations about what is currently happening with technology in your district. It is divided into five sections: 1) Technology Acquisitions, 2) Curriculum, 3) Staff Development, 4) Technology Leadership, and 5) Networking & Telecommunications. Your committee will use this baseline information throughout this school year to engage in technology planning and to develop inservice opportunities for your staff.

Technology Acquisitions

In the United States, business spends 10 percent of their yearly budgets on technology. In contrast, schools across the country struggle to spend one percent of their yearly budgets on technology. Technology spending this school year will be $93 per student in the United States. This school year, Sioux Valley is spending $55,000 on technology. That is

1.6 percent of your total budget and is $82 per student.

Many school districts in South Dakota are striving to spend at least $100 per student per year on technology. By budgeting for technology at this level on a yearly basis, it is possible to develop a feasible cycle of replacing old and outdated computers. Computers have a useful life cycle of 5 to 7 years. At the end of that time, they are either worn out from daily student use, or they are so outdated that they serve a very limited purpose. You have already experienced this. At one point in time your district had dozens of Apple IIe computers. They served thousands of students in your district for the better part of a decade. You now have surplused most of your Apple IIe computers and moved on to newer technology that better serves the educational needs of your students.

There are three reasons why your school district should continue budgeting for technology on a yearly basis. First, every classroom in your district should have a computer with CD-ROM, printer, at least a 25" TV, a converter box between the computer and TV, appropriate software and CD-ROM programs, and access to a scanner and digital camera. Second, your Macintosh LC computers should be replaced over the next couple of years. These computers are already six years old. They have just a few short years before they need to be replaced. Third, your entire school should be networked with each classroom having Internet access.

For these reasons, it is suggested that your district consider spending at least $67,000 per year on technology. This is feasible since technology spending comes out of capital outlay funds, not general funds. Spending at this level will ensure that your district continues to move forward with technology.

Curriculum

Is technology a subject to be taught, or a tool for use in other curriculum areas? Should computers be placed in labs or in classrooms? To answer these questions, it is helpful to look at the role reading has in our curriculum. Reading is taught as an individual subject area in the early elementary grades. We all recognize the importance of teaching students how to read. Then, as students reach upper elementary and move into junior high and high school, reading becomes a tool that is used to enhance the learning of all other subject areas. Technology is exactly the same. We need to have computer labs, computer teachers, and a K-12 technology curriculum that provides our students with technology skills and experiences. Then, teachers can use technology to enhance the learning process in all other subject areas.

First, we need to look at your K-12 technology curriculum. That includes everything that takes place in your three computer labs. Your elementary computer program is exceptional. Tamara Schmidt does an outstanding job keeping your elementary current with hardware, software, and appropriate activities for your students. The only area that needs to be strengthened is the link between what happens in the computer lab and what happens in other elementary classrooms. Your elementary teachers and Tamara do make an attempt to integrate computer lab time with other subject areas, but limited planning time makes this difficult. Students will gain much more if computer lab time is fully integrated with other elementary classrooms.

Your junior high and high school curriculum need to be revised and updated. Students spend too much time keyboarding and word processing, and not enough time working with advanced technologies such as multimedia and the Internet. You have all the puzzle pieces to put together a strong technology curriculum for your older students. You have two

talented computer teachers (Bryan Brace and Kodi Abbott). You have enough time already scheduled with students (3 semesters total with seventh, eighth, and ninth graders). And, you have enough access to computers with your two computer labs. All ninth grade students should leave your computer literacy class with advanced technology skills that enable them to create multimedia reports and use the Internet for research and publishing purposes. It is suggested that Bryan, Kodi, and Tamara work with your administration and TIE to update your K-12 technology curriculum for use next school year.

Next, we need to look at how technology is impacting the teaching and learning that occurs in all of your other classrooms and subject areas. This is a difficult process that schools across our country are wrestling with. There seem to be two factors that make technology integration into other curriculum areas possible. First, teachers need to have advanced technology skills and experiences. This has much to do with staff development and will be discussed in the staff development section of this report. Second, technology must be available in each classroom. Integration can only occur if technology tools are readily available at the classroom level.

Your district has been working on integrating technology into curriculum areas for the past few years. Several classroom teachers are definitely making progress. Jerry deBlonk's high school history classroom is a shining example. History comes to life in this classroom where students learn about the past with CD-ROMs and video cameras. Another example is Dan Skogen's use of CD-ROMs and videodiscs to enhance his elementary science classroom. One of the strengths of your school district is that all of your teachers are interested and willing to use technology as a tool to excite and motivate students.

Staff Development

The key for making technology a significant and vital part of your school district is staff development. Staff that have advanced technology skills and experiences are able to position technology as an essential tool in the teaching and learning process. One of the real success stories for your district is Wednesday afternoon planning time. By having several hours available each Wednesday afternoon, your district is assured of having some inservice and planning time available each week.

Other possible ways of providing inservice opportunities include: 1) Use full-day inservice days that are built into your school calendar such as February 14, 1997. 2) Encourage staff to visit other area school districts that are using technology effectively. 3) Encourage staff to attend regional and state conferences such as the TIE Conference. 4) Take advantage of inservice opportunities provided by the Northeast Cooperative. 5) Have Sioux Valley staff members conduct inservice sessions for the rest of your staff. 6) Offer evening, weekend, or summer workshops. Staff could be paid a stipend and/or receive graduate credit for these workshops. 7) Implement a program that would pay individual staff members for up to one week of work during the summer to design curriculum units integrated with technology.

The content and quality of staff inservice is critical. Technology moves forward at such a rapid rate, that it is challenging for a school district to stay on top of technology developments. It has just been during the past year that Internet and multimedia applications have burst onto the scene. Yet these are the advanced technology skills that we should be teaching our staff and passing on to our students. It is also important that staff are not just learning about technology, but are participating in "hands-on" experiences that model appropriate use of technology as a tool in the teaching and learning process.

Your school district can also encourage staff members to acquire advanced technology skills by doing the following: 1) Continue the policy of encouraging staff to take computers home during the summer months. 2) Expand accessibility of laptop computers. 3) Implement a computer purchase program for staff members. Your school would work with your local banks and/or other local businesses to secure funds for individual staff members to purchase home computers. Staff would make monthly payments over a two-year period to repay this interest-free loan.

Unfortunately, there is no easy one-step solution for improving staff development opportunities. Staff development is a process for your district to be involved with on an on-going basis. By carefully balancing inservice experiences between individual and group activities and internal and external activities, you will find the combination that will be most beneficial to your staff and school district.

Technology Leadership

Your school district has the need for at least a part-time technology coordinator. This need will be magnified as you network your school and obtain a high-speed Internet connection. Ideally, your coordinator will be responsible for providing technical support and repairs, keeping a vision for technology's role in your district, and working with individual staff members on specific inservice needs. While the technical support is important and worthwhile, the top priority of your coordinator will be to help all staff members build their technology expertise.

It is extremely difficult to find one person that has both technical expertise and curriculum/inservice experience. You might be better off splitting the duties of your technology coordinator into two part-time positions. Under this scenario, you will have a part-time technical person that takes care of just your network and repair needs. This technical

person can be a shared position with another area school district, or you can teach one of your existing employees to take over this position. This technical person will do the behind-the-scene work that keeps technology accessible and operational for staff and students. Then, you will want to have another part-time position that focuses on raising the skills of all other employees. This person will conduct both group and individual inservice sessions, and will facilitate integration of technology into your curriculum.

Having stated the need for a technology coordinator, it is important to note that every employee of your school district should consider technology a major part of their job description. In schools of today, secretaries, administrators, and teachers should all be using technology to be productive and efficient. Too many school districts make the mistake of having technology be the responsibility of one or two employees. Technology is the responsibility of all Sioux Valley School District employees.

Telecommunications/Networking

The way in which students are taught and the educational environment they experience is evolving into a world of information and enhanced communications exceeding well beyond the four walls of our daily classrooms. This evolution into the Communications Age necessitates that steps are taken to enhance our learning environment to meet the needs and demands placed upon all of us, teachers and students alike, that are experiencing this incredible change in our society. To take advantage of the opportunities presented to us we must find ways to more easily communicate with the rest of the world and share the abundance of educational resources being made available.

The first step in sharing resources and enabling computer-mediated communications is through connecting our resources, or networking. Shared resources could be as simplistic as the printers that are currently shared via existing AppleTalk networks in the Sioux Valley computer labs or as sophisticated as the entire Educational Resources Information Clearinghouse (ERIC) residing on a file server on the campus of Syracuse University. Networking will also establish a direct communications link between Sioux Valley and the global educational community. These two primary advantages realized only through networking form the single most important element currently missing in Sioux Valley's quest to provide the best possible educational advantage to its student population. Therefore, establishing a network should be viewed as the primary goal of the district to enhance the use of existing educational technology.

Networks are typically categorized in terms their size or encompassed area. A network could be as small as two or three computers or a lab of computers, or as large as a city-wide network of devices. The latter is commonly referred to as a wide-area-network (WAN) with the smaller known as a local-area-network or LAN. With the recent emphasis toward networking, new classifications and acronyms are common, however for our purposes the concept of a local-area-network will suffice. A logical and realistic goal for Sioux Valley would be to establish a LAN extending to each and every classroom, lab, and office within the school boundaries.

Just determining that a network extending to every classroom is not enough however, the method by which those connections are established and the number of connections (network drops) made available to each room are factors of primary importance in the planning process. Without question, the logical layer protocol (or standard of data transmission) most commonly used in networks today is Ethernet. Ethernet provides benefits in speed, reliability, and flexibility that other protocols such as

LocalTalk, Token Ring and others don't afford. An Ethernet network can be run over several data carrying mediums including standard copper wire, coaxial cable, or fiber, each of which contributes to variable factors such as transmission distance, termination devices, cost, etc. Again the standard commonly followed today is to implement the Ethernet network over Category 5 cabling (twisted-pair copper wire). Category 5 cable differs from the wire commonly used to connect our phone lines (Cat 3) by virtue of an additional two pairs of twisted wire. The advantages seen through the additional wires is two-fold, not only does this allow the cable to be multi-functional (data and voice) but more importantly it opens a channel of greater data bandwidth resulting in increased throughput or speed. This greater bandwidth will become more important in future years when Fast-Ethernet standards become cost effective or new technological advancements emerge.

Addressing the issue of network drops per classroom is subjective to the individual needs in each room. Whereas a computer lab could require one connection per computer, it is more likely that network connections would be shared by small numbers of computers via hubs. In the typical classroom environment where perhaps two or fewer computers reside, the "magic" number of connections is unknown. In a perfect world we would love to see one computer per student and therefore one network connection as well. However at any given time there may be as many as 20-30 students in a single room which would necessitate as many connections. Obviously, limited space and money rule out any such notion. Therefore our best approach again is to learn from what others are implementing and we can draw upon two such examples. First, South Dakota's own statewide Wiring the Schools Initiative has determined that an adequate number of total connections in any school is 75% of the total student enrollment. With this figure they plan to wire up to as many as 8 network drops in some classrooms with the remainder found in the

libraries, labs, administrative offices, etc. In contrast, the nationwide volunteer effort to wire local schools known as NetDay '96, suggests at least two network drops per classroom. This discrepancy illustrates the uncertainty of our immediate needs and future demands. The sensible approach is to make sure that every room has at least one or more connections without surpassing reasonable budget constraints determined by your planning committee.

Once the basis for a building wide Ethernet network is established and agreed upon by all parties involved, a thorough and strategic network design by a qualified Systems Engineer is required. This design would include all elements needed to install and maintain a network that not only meets building safety codes but also would allow for future revision and expansion if needed. Though the design process could be accomplished by other means, we would strongly encourage any cost saving measures be taken up during the implementation of any such design. The implementation phase could be realized in one of two ways. First, if the installation of the network is determined to best be accomplished by a business such as a computer networking firm, then a complete set of bid specifications would be essential to assure proper procedures and materials are used. The alternative is to organize a local effort of volunteers to provide expertise and workmanship necessary for installing the network. Many districts around the United States are finding local electricians and volunteers from other professions in their midst that are enthusiastic about the opportunity to aid their community and school with their time and expertise. More information concerning how to rally the support necessary and organize such an effort can be acquired from the NetDay '96 organization and web site at: http://www.netday96.com

Upon the installation of a building wide local-area-network, the advantages of enhanced communications and access to a world of shared educational resources as described earlier can begin to be realized.

Acquiring a suitable contract with an Internet Service Provider (ISP) to gain access to that world of information is the final missing link. The charges incurred for that access would be determined primarily by the amount of bandwidth needed and the length of the service contract agreed upon. Suggested bandwidth requirements would be no less than a 56Kbps leased line or T1 frame-relay link. Because a T1 line can supposedly carry data at a rate of 1.544Mbps, this large difference should seem extraordinary. However, experience has shown us that frame-relay links tend to process network traffic in "bursts", therefore not exhibiting expected throughput rates. As always in a rapidly changing technological environment, it is also desirable to keep the length of service contracts to a minimum thus insuring future growth possibilities and competitive rates.

With an established networked infrastructure, enabling communications and offering educational opportunities beyond the typical classroom walls from any computer at any time will become an everyday occurrence for students and teachers at Sioux Valley. The inter-connection of this local-area-network to the entire global network known as the Internet will provide countless educational advantages today and tomorrow. As a final recommendation, to take full advantage of the process undertaken to network existing computer workstations, concurrently running the wire and cable required for telephone and television access into each classroom would be cost effective and another major step toward total network connectivity. Thus each classroom would have avenues for voice, data, and video transmission just as our other primary learning environment, our homes, currently exhibit.

Obviously, to see the vision of Sioux Valley's networked resources to completion additional items such as file servers, CD-ROM tower, additional TV's and VCR's, etc., need to be built into the annual technology budget as described in that section of this report. Also, with the

expectation of a locally administered network, the need for additional human resources to troubleshoot and maintain the integrity of the network and computers attached to it becomes a vital component to the overall success of the mission. These and other considerations provided in this report require a thorough and carefully planned process to reach the goals and objectives set by your school district. However, with a large stockpile of multimedia capable computers and a staff eager to put them to use in the teaching and learning process, this vision is quickly becoming a reality.

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