

Jefferson County Schools DRAFT Technology Plan 2005-2006

Mission Statement

Challenging individuals to achieve excellence

I. Process Elements

1. Needs Assessment

A local needs assessment was conducted through an online web-based survey available to all teachers and administrators. The results of the survey were used to determine effectiveness of staff development opportunities, technical support, hardware and software needs. Educators were also asked to evaluate barriers to the integration of technology. The findings were as follows:

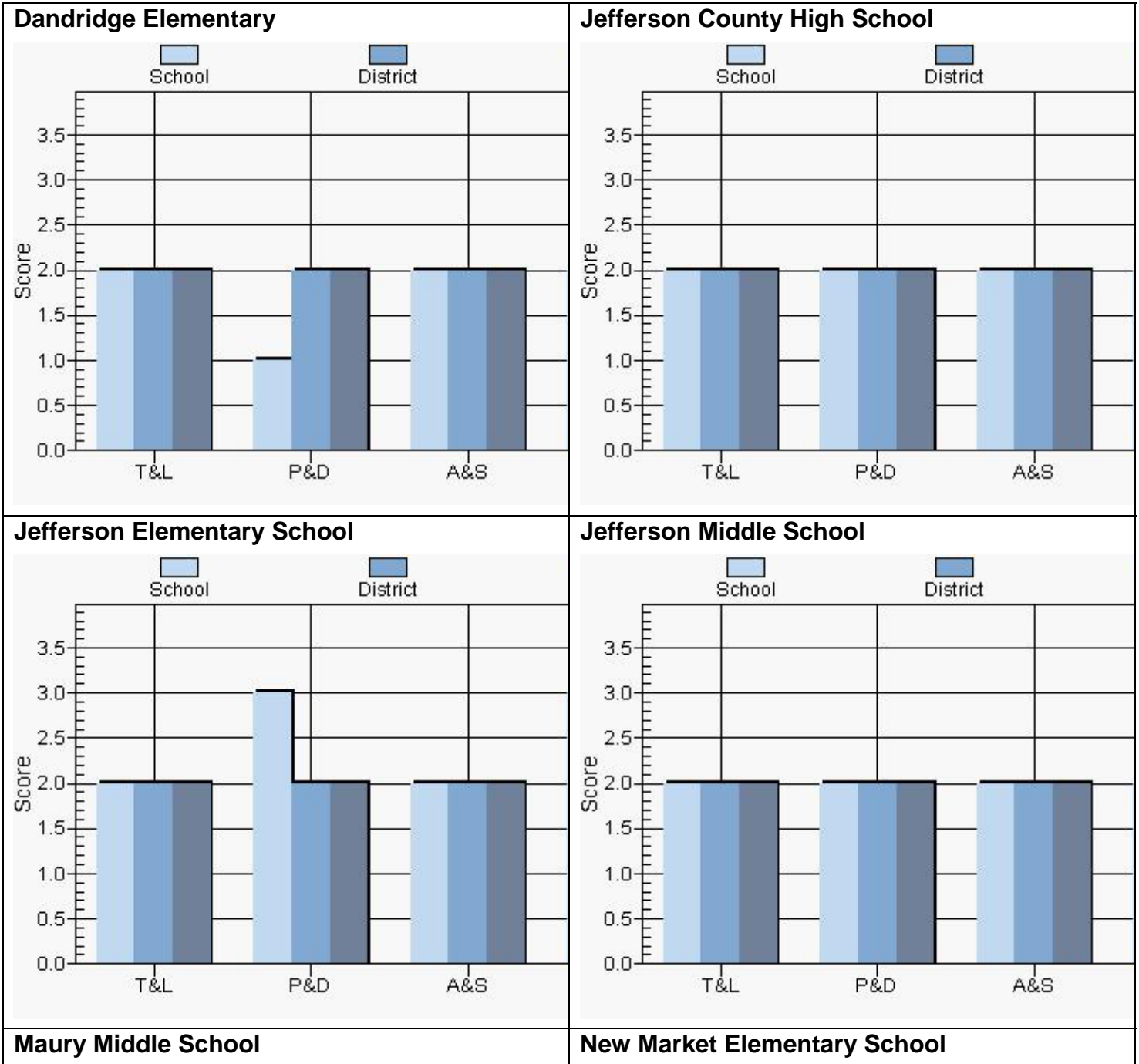
Technology Needs Assessment Survey 03-2004	Not a Barrier	Minor Barrier	Major Barrier
1. Not enough or limited access to computer.	28%	34%	38%
	67	81	90
2. Not enough computer software.	37%	41%	22%
	87	96	53
3. Lack of time in class schedule for projects involving technology.	17%	35%	47%
	41	83	111
4. Use of technology not integrated into teacher materials.	34%	53%	13%
	78	121	31
5. Too much down time when computer equipment malfunctions.	31%	43%	25%
	72	101	59
6. Not enough training opportunities for technology projects.	65%	30%	5%
	151	70	12
7. Lack of knowledge about ways to integrate technology into curriculum.	44%	44%	13%
	101	101	29
8. Lack of time to develop lessons utilizing technology.	20%	41%	40%
	44	92	89
9. Internet or other software speeds are too slow.	47%	37%	16%
	109	86	36
10. Lack of technical support for technology projects.	51%	37%	12%
	118	86	28
11. The reward structure does not recognize faculty for integrating computers for teaching and learning.	56%	30%	14%
	131	70	33

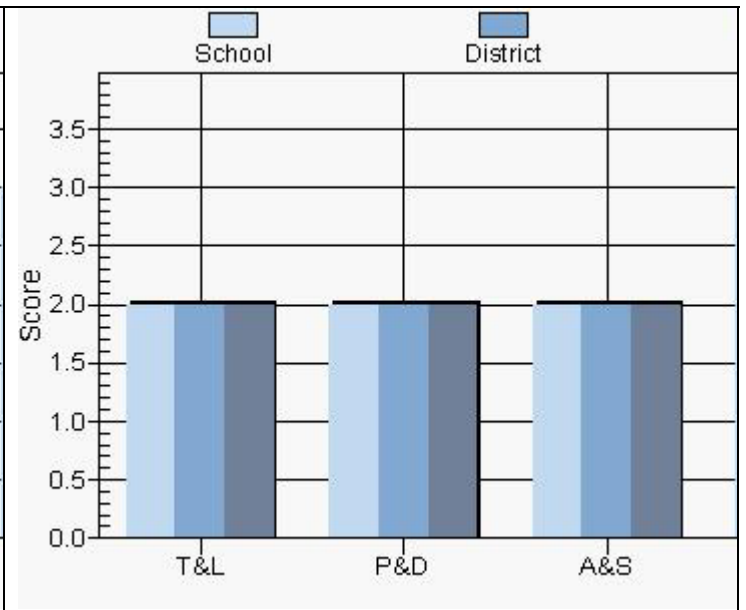
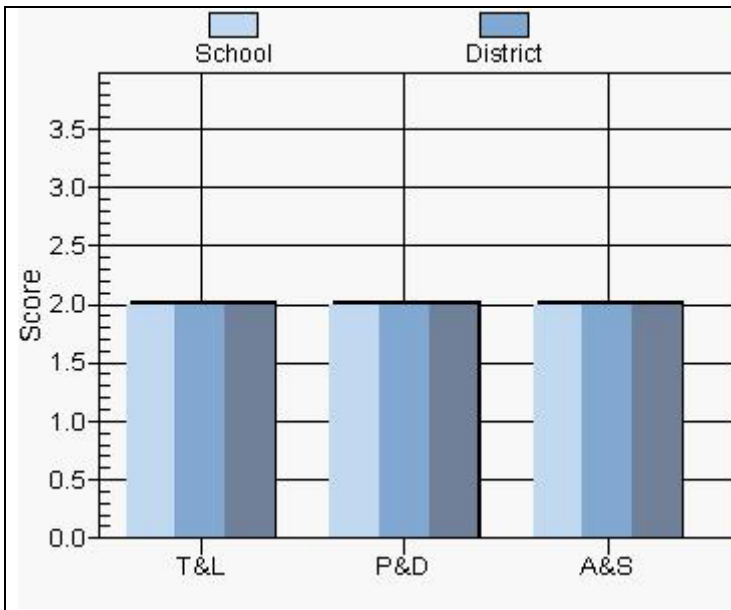
	Excellent	Adequate	Poor
1. Technician response time is	28%	49%	22%
	68	118	53
2. School network software is	25%	67%	8%
	59	155	18
3. Technology training opportunities in our system are	64%	33%	3%

	152	79	6
	71%	26%	4%
4. Online resources provided by our school district website are	166	60	9
	11%	57%	32%
5. Our computer upgrade policy is	26	133	76

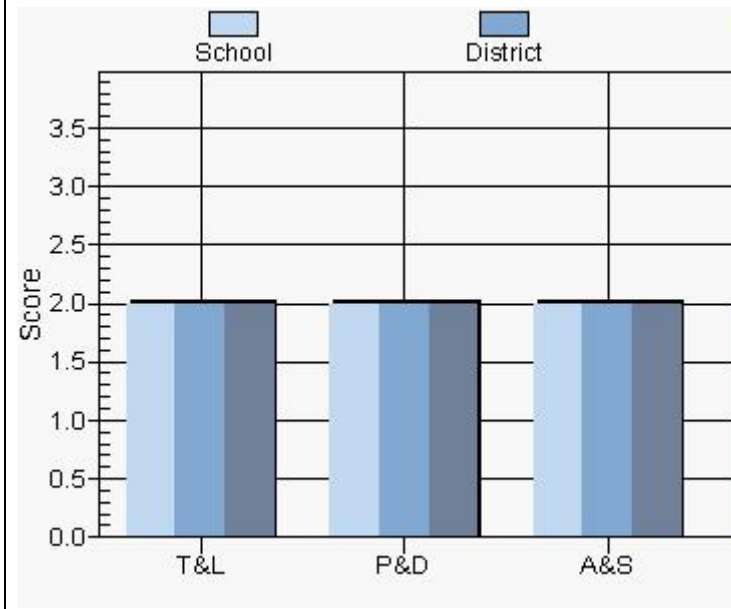
The results of this survey were utilized by the Technology Steering Committee to determine the goals for this district technology plan and the school district five-year plan.

Based on E-TOTE survey completed February 2003 for Jefferson County Schools, the following areas of need were identified:

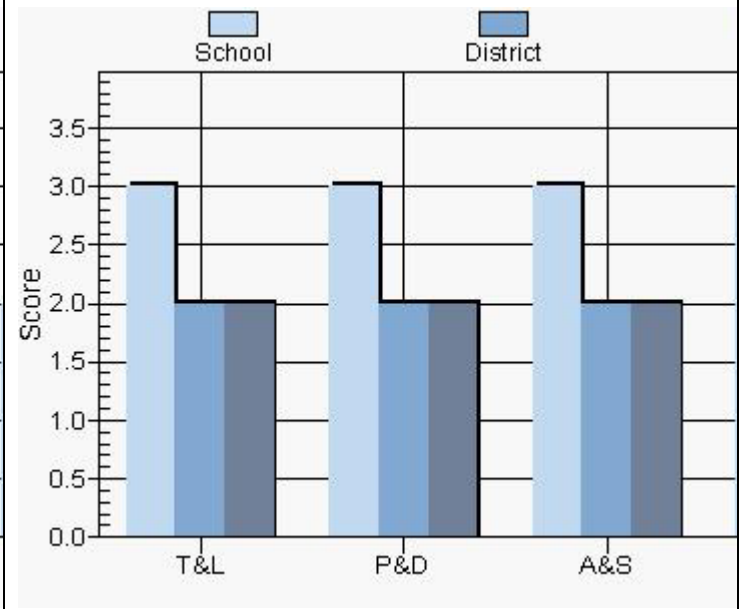




Piedmont Elementary School

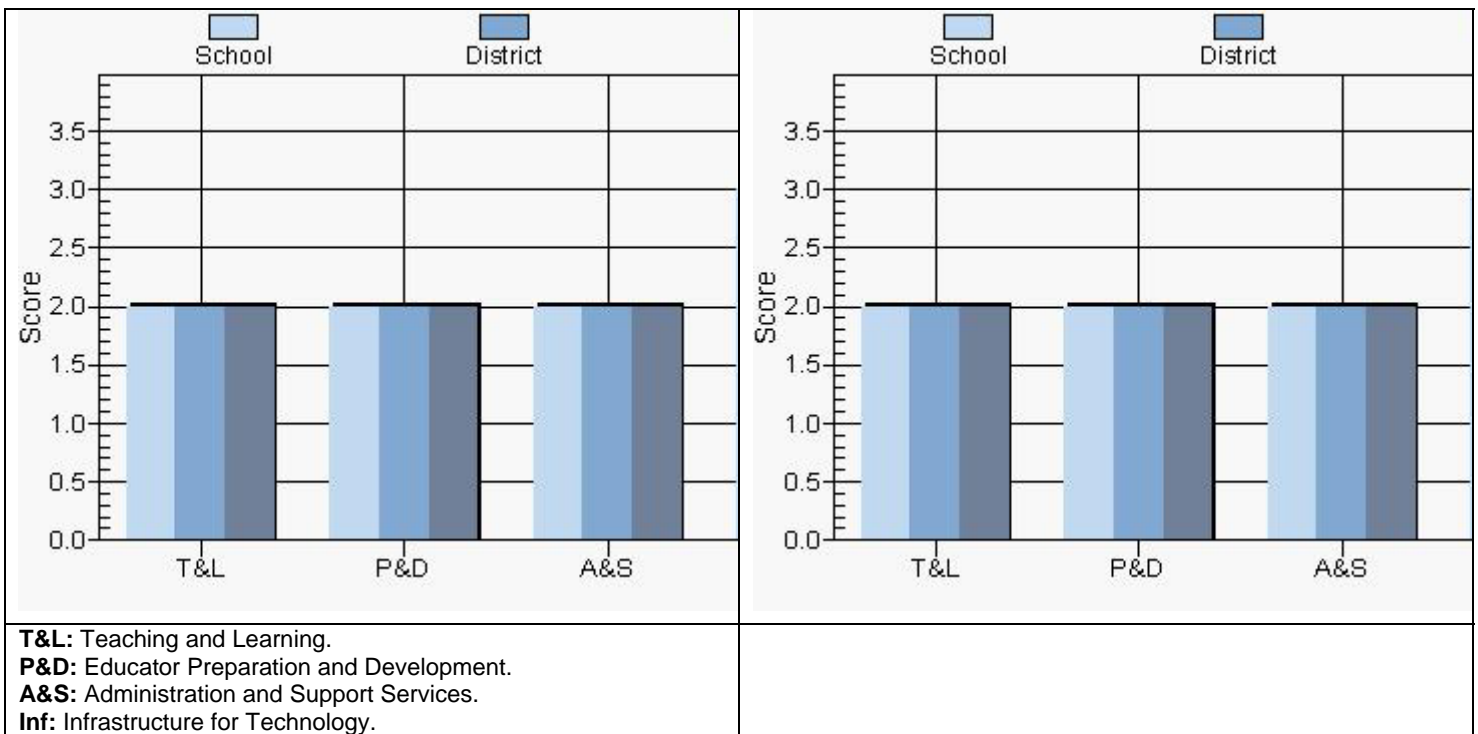


Rush Strong School



Talbot Elementary School

White Pine School



2. Stakeholder Involvement in Planning

Dandridge Elementary School Technology Team

Sandra Austin	Principal	County Steering Committee Member
Darla Lewis	Second Grade Teacher	
Barbara Bull	Kindergarten Teacher	
Lisa Ulrich	Third Grade Teacher	
Shannon Key	Exceptional Children Teacher	
Jean Jarnigan	Fourth Grade Teacher	
Susan Price	Fifth Grade Teacher	County Steering Committee Member

Jefferson Middle School Technology Team

Mike McClane	Principal	
Melissa Hensley	Middle School Math Teacher	
Donna Jordan	Teacher	County Steering Committee Member
Robyn Combs	Media Specialist	
Rebecca-Gunter Repp	Art Teacher	County Steering Committee Member

Jefferson County High School Technology Team

Dale Schneitman	Principal	
Jan Helton	Business Teacher	County Steering Committee Member
Jan Coley	Biology Teacher	County Steering Committee Member
Annette Loy	Art Teacher	
Melanie Hodge	English Teacher	
Ralph Holt	Math Teacher	

Jefferson Elementary School Technology Team

Steve Burns	Assistant Principal	
Karen Bazan	2nd Grade	
Mary Foster	3rd Grade	
Melissa Bibb	4th Grade	County Steering Committee Member
Carolyn Elder	5th Grade	

Maury Middle School Technology Team

Jim Hodge	Principal	County Steering Committee Member
Carole Bradley	Social Studies Teacher	County Steering Committee Member
Pat Layton	Math Teacher	
Betty Jo Leonard	Science Teacher	
Jeff Smith	Band Director	
Bill Delozier	Math Teacher	
Lea Anna Miller	Counselor	
George Yardley	Parent	
Dr. Charles Leonard Community Physician		

New Market Elementary School Technology Team

Vickie Forgety	Principal	
Denna Stroud	Second Grade Teacher	
Ruth Pohlman	Literacy Coach	County Steering Committee Member
Carol Romines	Third Grade Teacher	
Steven Johnson	Exceptional Children Teacher	

Piedmont Elementary School Technology Team

Bertie French	Principal	
Joanne Whitley	Second Grade Teacher	
Katheryn Pless	Computer Lab Facilitator	

Lynn Husen	Counselor	County Steering Committee Member
Terry Sams	Fourth Grade	

Rush Strong School Technology Team

Robert Berry	Principal	
Tammy Mull	Technology Assistant	
JoAnne Hodgson	Eighth Grade Math Teacher	County Steering Committee Member
Karen Burchfield	Third Grade Teacher	

Talbott Elementary School Technology Team

Rene' Osborne	Principal	
David Goff	Librarian	County Steering Committee Member
Rachel Watson	First Grade Teacher	
Michelle Strange	Third Grade Teacher	
Jennifer Tyrell	Fourth Grade Teacher	
Peggy Moates	Fifth Grade Teacher	

White Pine School Technology Team

Diane Jones	Assistant Principal	County Steering Committee Member
Tracy Marra	Third Grade Teacher	
Jackie Collins	Fourth Grade Teacher	County Steering Committee Member
Sherry Pewitt	Middle School Science Teacher	
Kelly Lemons	Technology Facilitator	

County-Wide Technology Steering Committee Members

Bill Nolen	Director of Federal Programs	County Steering Committee Member
Connie Campbell	Instructional Technology Specialist	County Steering Committee Member
Faye Humbard	Director of Technology	County Steering Committee Member
David Lockhart	School Board Member	County Steering Committee Member

Stakeholders were asked to develop, write, and/or approve a comprehensive district technology plan that would prepare our students to become technology literate and be able to use technology in career goals. The stakeholders were charged with setting school and district-wide goals and developing a plan that would be both attainable and visionary.

3. Timeline, Technology Implementation - 2004-2005

Improvements will be made as funds become available.

	2004-05
Funding	<ul style="list-style-type: none"> • Apply for grants to supplement and fund technology plan • Request Board Supplemented Funds for Technology Replacement • Work with building level administrators in their planning and spending of school technology funds • Continue to apply for E-Rate and Title II Part D funds • Work with district level administrators in the development of and integration of technology into the consolidated plan
Infrastructure	<ul style="list-style-type: none"> • Identify new networking technologies to improve speed of delivery of content • Develop wireless networks for each school • Continue to provide an online database system for schools to report technical needs • Continue to upgrade firewall server • Network all new classrooms to WIN/NT and the Internet • Provide connectivity and technical support to Family Resource Center, Preschool Program, and Adult Literacy Program
Hardware and Software	<ul style="list-style-type: none"> • Upgrade lab computers district wide every three years • Continue to provide Internet integration resources through Tech Update and Day by Day websites • Continue to provide a web server for teacher, ESL, Family Resource, 4-H, and Adult Literacy websites • Continue to upgrade network software aligned with curriculum objectives established by the TN SDE • Upgrade computer hardware for school administrators, faculty, and attendance staff • Provide all new K-8 classrooms with a teacher workstation (CPU, printer, 32 inch projection TV, and cart) • Provide new network software servers for each school • Provide each school with one technology lab per 400 students

Staff Training	<ul style="list-style-type: none"> • Provide district-wide technology workshops for all grade clusters during the summer • Coordinate with school-level administrator on gaps from the E-TOTE and Jefferson County online assessment tools • Offer courses/workshops each week throughout the school year on technology titles of interest. Interests will be determined from a technology training survey and District and School Improvement Plans • Offer technology training centered around technology goals • Continue to offer online training through the county's tech tutorial web site • Provide and coordinate on-site professional development based on needs of schools • Continue to provide funding for each school to send teachers to TETC conference • Establish a technology based year-long professional development project based on achievement need identified by TerraNova tests • Update online curriculum based on SDE objectives aligned with Internet resources to be utilized by teacher and learner • Continue to provide training and opportunity for a school representative to update the individual school website monthly • Continue to provide two days of technology training for new personnel • Purchase school subscription and provide training in the utilization of netTrekker • Provide teachers with training to maintain classroom websites
Assessment	<ul style="list-style-type: none"> • Evaluate the Jefferson County Schools technology department through an online Technology Assessment Survey • Analyze E-TOTE data • Evaluate System and School Report of Standardized & State Testing to determine changes in student achievement through the implementation of technology • Aggregate TerraNova data through the utilization of Clarity Testmate software to determine learner progress and instructor efficiency
Student Learning	<ul style="list-style-type: none"> • Provide students technology based learning through staff development projects • Provide student resources for mastery of objectives (Tech Update, Basic Skills, Interactive Websites) • Prepare students through group and individual technology integration activities for mastery of E-TOTE student technology literacy skills based on ISTE standards • Evaluate student testing data completed district wide, TerraNova, Gateway, ACT, and SAT data to determine the effectiveness of technology integration on student achievement • Provide student management software based on NETS•S and state curriculum standards through the school networks • Investigate the feasibility of online assessment and distance learning resources • Continue to support distance learning at the high school level

Staffing	<ul style="list-style-type: none">• Continue to provide additional technicians as funding and equipment needs require.• Provide a certified technology teacher for each school
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4. Responsible Parties

All Stakeholders are responsible to see that the goals and objectives are met.

II. Content Elements

5. Vision

The mission of Jefferson County Schools District is to develop 21st century citizens who are well prepared socially, emotionally, physically, intellectually, and psychologically to live confidently in a technologically advanced, multi-cultural society. Such a citizen will be values-oriented, wellness-conscious, career-directed, competent in communications and problem-solving, skillful in creative and critical thinking, culturally sophisticated, and acutely aware of global interdependence. To accomplish this, our schools and community will unite as partners in the education process. Our schools will be responsible for providing all students with:

- Challenging learning opportunities through an integrated curriculum
- Hands-on experiences necessary for today's technically advanced society
- Resources necessary to set realistic career goals

Since education extends far beyond the four walls of the classroom, we see the community's role as:

- Parents and guardians actively involved in the development of their children's intellectual growth, citizenship skills, and physical and emotional well-being
- Business industry and government joining together in the teaching and learning process.
- Local government assuring the availability of critical resources to provide our students with a top-quality learning environment.

In this vision, Jefferson County will enhance its "Community of Learning" where the focus of education is extended to all community members.

6. Goals and Objectives: (Responsible Parties)

Administration/Faculty Goals

- A. Use technology to identify gaps in student learning and analyze assessment data. (Faye Humbard, Connie Campbell, and all Principals)
- B. Use technology that is developmentally appropriate to promote active learning and individualize instruction. (Faye Humbard, Connie Campbell, and all Principals)
- C. Ensure access to assistive technology for students with disabilities.— Debbie Berry and Faye Humbard)

Student Goals and Strategies

The following have been identified as a broad overview of K-12 goals. (Faye Humbard, Connie Campbell, and all Principals)

- A. Students will communicate through applications software.

Strategies:

- Create well-written documents, spreadsheets, and presentations.
- Use computer-assisted design tools.

- B. Students will communicate visually, graphically, and artistically through multi-media

presentations.

Strategy:

- Use a variety of technology (computers, projection devices, camcorders, video- editing equipment, scanners, calculators, copiers, laser discs, video and audio equipment, cameras).

C. Students will communicate through networks and telecommunications.

Strategy:

- Use computer networks and telecommunications (email, voice mail, video)

D. Students will access and retrieve electronic information.

Strategies:

- Use search strategies to retrieve information
- Use on-site electronic resources (encyclopedias, catalogs, indexes, hand-held learning tools)
- Use networks to access information (on-line databases, libraries, electronic bulletin boards)

E. Students will interpret and evaluate information to support learning in all content areas.

Strategy:

- Prepare multimedia presentation and digital reports that integrate all content area learning

F. Students will use technology to enhance their productivity,

Strategies:

- Use technology to develop learning and workplace skills
- Develop strategies for problem solving, critical and creative thinking
- Create high quality multi-media products
- Develop creativity and innovation through the use of technology

G. Students will demonstrate technology literacy and the ability to utilize technology resources by eighth grade.

Strategies:

- Focus on instructional practices that provide students an opportunity to use technology.
- Use technology to promote active learning and individualize instruction.
- Develop content-appropriate technology learning resources aligned with core content curriculum standards.
- Provide higher-thinking problem solving activities to challenge and utilize students' computer skills.

H. Our students will experience the following information problem-solving skills:

- Defining tasks

- Identifying information seeking strategies
- Locating and accessing information
- Determining information's relevance
- Organizing and communicating the results of the information problem-solving effort
- Evaluating the effectiveness and efficiency of the solution.

Strategies:

In requiring these skills of students, we will ensure that the opportunities made possible through the use of technology will be available to all students as they progress through school, regardless of personal or socioeconomic factors.

- Determining high-needs schools through use of technology needs assessments and the online E-TOTE.
- Assess teacher training needs through district surveys.
- Explore the use of older technology through a Lynx terminal lab setting to provide students individualized technology access. Local funds will be used for wiring and upgrading needs.
- Increase Internet access through expanded band width in each school. Since the quality of Internet access is critical. Broadband access will be the new standard. Slow, unreliable connections that cannot support interactivity or rich multimedia content will no longer be sufficient. To take advantage of access to technology for improved teaching and learning, it will become increasingly important to build and support network infrastructures-wired or wireless, desktop or handheld-that allow multiple devices to connect simultaneously to the Internet throughout every school building and community in the nation. Funding provided through SDE through ENA (Education Networks of America). ERATE funds will be used to improve bandwidth at Talbott Elementary School. This school was the only school that was not upgraded to a T1 line through ENA and ERATE funded. Local funding will be used for this one upgrade.
- Use assistive technology to ensure all students have access to general curriculum.
- Upgrade teacher and lab computers district-wide every three years. Funding provided through local monies.
- Continue to upgrade network software aligned with curriculum objectives and provide security through school networks and firewalls. Funding provided through local monies, Ed Tech Funds, and Title funds.
- Increase the number of computers for students to utilize in the classroom. Funding provided through local monies, Ed Tech Funds, and Title funds.
- Examine the technology needs assessment and evaluation of TerraNova test results to determine network software needs at all schools so that all students have access to programs that provide necessary skill practice and enrichment. Funding provided through local monies, Ed Tech Funds, and Title funds.

I. Students will participate in innovative content delivery methods.

Strategies:

- Enroll in Orchard math, science, and language arts software for elementary students.
- Use Plato at Jefferson County High School.
- Enroll high school AP students in online AP distance courses.

J. Increase the number of technology literate teachers and administrators who use technology resources.

Strategies:

- Provide two days of technology training for newly hired teachers and administrators. (local monies)
- Offer after-school weekly technology sessions and summer technology workshops for all teachers to learn to integrate technology and maintain and update classroom websites. (local monies)
- Conduct technology workshops for administrators. (local monies)
- Provide teachers an opportunity to attend technology integration conferences. (local monies)
- Provide year-long technology based professional development projects aimed at integrating technology into the curriculum and creating online technology resources. (Ed Tech Funds)

7. Collaboration Among Educators

A district-wide online curriculum has been developed by the district technology committee for math, language arts, science, and social studies through the use of the Curriculum Designer software. Technology resources will be continually updated to the curriculum. The goals and objectives from the district technology plan will be integrated into this curriculum. All educators in Jefferson County will be integrating this curriculum into their classrooms. The county will hold a district-wide in-service for training for the committee on the usage of the software. The committee members will then return to their home schools and gather input from classroom teachers, library staff, administrators, and educational technology staff on the implementation of the curriculum into their classroom. Jefferson County Schools has also collaborated with other school systems by sharing equipment and technical expertise.

8. Collaboration with Community Partners

- a. Jefferson County currently collaborates with businesses throughout the county. Local businesses and industries are involved with the schools in Job Shadowing programs, Career Fairs, and career visits. Many of our students have work release time in which they earn credit for job related activities.
- b. Jefferson County works with the Mossy Creek Literacy Council in the development of curriculum resources and maintains and hosts their website.
- c. Jefferson County's technology staff and administrators participate in the Administrator's Technology Academy in East Tennessee earning TASL credit and technology information.

- d. A T1 Internet connection and technician support is provided to Adult Literacy and Family Resource
- e. A member of the technology department serves on the Jefferson County Literacy Committee
- f. Jefferson County Adult Basic Education receives technology training through the district technology department.
- g. Email and newsletters will be used for parental communication. A school personnel email directory is provided online to enable parent communication. Invitations to family technology showcase will be sent to parents and community.
- h. Orchard School-to-Home license provides the Orchard Skills software for student home usage for remediation and practice.
- i. Online multimedia skill activities provided through the Jefferson County Schools website provide home practice for students.

9. Curricula and Teaching / Integrate Technology

- Provide an online curriculum web site and Internet resources designed to increase the use of integrated technology.
- Expand classroom tools for teaching and learning.
- Provide for the integration of multiple resources for existing and emerging curriculum.
- Enable learning communities to communicate more effectively, access and process information, and work productively.
- Link the classroom with educational resources within the building, community and worldwide.
- Create a collaborative environment for project-oriented activities.
- Encourage the use of multimedia tools enabling students to become active and experiential learners.

To ensure that students are prepared for their future we will: include technology and information literacy into our state and local standards for what students should know and be able to do; ensure students use technology appropriately and responsibly; and develop new student assessment tools.

To meet the higher student achievement expectations, teachers need to deepen their content knowledge and learn new methods of teaching. They need more time to work with colleagues, to critically examine the new standards being proposed, and to revise curriculum. They need opportunities to develop, master and reflect on new approaches to working with children. All of these activities fall under the general heading of professional development.

The Software & Information Industry Association (SIIA) today released the "2000 Report on the Effectiveness of Technology in Schools," a 135-page report highlighting the results of more than 300 recent surveys on education technology from professional journals, doctoral dissertations and other qualified sources.

The report revealed that education technology has improved student achievement, advanced student self-concept and attitude about learning, and enhanced interaction involving educators and students in the learning environment. The report also tackles the challenges involved with technology integration and training in the educational environment.

The latest research and evaluation studies show that school improvement programs that utilize technology for teaching and learning produce positive results for students and teachers. Since many schools and classrooms have only accessed technology for teaching and learning recently, the positive outcomes of these studies suggest that a long-term commitment to harnessing technology for education will yield a brighter future. With sufficient access and support, teachers will be better able to lead students to comprehending complex concepts and becoming involved in learning. Through this training, teachers can provide their students with access to information and resources, and meet individual student needs.

Key factors for public schools success are the high standards set for student academic achievement and conduct. Teachers are instructional leaders who must have access to and provide students with adequate resources. A school climate must contribute to both teaching and learning.

The need to prepare students with the skills they need to be successful in our every changing technological society should become a major priority. To assure all our children become proficient information and technology users we have developed a unified approach to providing students with the skills they will need for their futures.

Latest finding in educational technology research studies:

Perspectives on Technology and Education Research: Lessons from the Past and Present (1999)

<http://www.ed.gov/Technology/TechConf/1999/whitepapers/paper1.html>

Margaret Honey, Katherine McMillan Culp, and Fred Carrig This paper offers a perspective that grows out of what staffers at EDC's Center for Children and Technology have learned from nearly three decades of research on educational technology. Rather than providing a detailed account of what we now know about the impact of technology on learning, the authors discuss where the research field is heading and review what may be the most promising directions for technology's role in education.

Report of the President's Committee of Advisors on Science and Technology

Panel on Educational Technology (1997)

<http://www.ostp.gov/PCAST/k-12ed.html>

This paper presents a good, introductory synthesis of knowledge about technology and student learning, technology and teacher practice, research, and policy. Sections on hardware, policy, and access may be outdated, however.

Who's Wired And Who's Not (2000)

<http://www.gse.uci.edu/doehome/DeptInfo/Faculty/Becker/packard/saveall.html#top>

Henry Jay Becker

A recent study detailing American schools' attainment on eight measures of full technological access, and socioeconomic correlation to full "access" at home and at school.

Difference in Software Use in Low and High Achieving Classes (2000)

<http://WWW.CRITO.UCI.EDU/TLC/FINDINGS/snapshot8/>

UC Irvine Center for Research on Information Technology and Organizations

This snapshot study is based on survey data, and reports on differing use of software applications based on student ability level.

Subject and Teacher Objectives for Computer-Using Classes by School Socio-Economic Status (2000)

<http://www.crito.uci.edu/tlc/findings/snapshot7/>

UC Irvine Center for Research on Information Technology and Organizations

Socio-economic status may not affect amount of computer use in school, but it has much to do with type of computer use and the learning objectives for students, a snapshot survey reports.

Are We There Yet? Research and Guidelines on Schools' Use of the Internet (2002)

<http://www.nsf.org/thereyet/fulltext.htm>

This study of more than 811 school district technology coordinators projects the growth of Internet-based instruction, the characteristics of leading-edge districts, and the quality of tech support available in districts across the country.

Technology Support: Its Breadth, Depth, and Impact in America's Schools (2000)

<http://www.crito.uci.edu/tlc/findings/technology-support/>

Amy M. Ronnkvist, Sara L. Dexter and Ronald E. Anderson

This study uses data from school administrators, technology coordinators, and teachers to examine the presence of different types of technology support in American schools, and it correlates the presence of high-quality technology support with teachers' uses of educational technology.

The Beliefs, Practices, and Computer Usage of Teacher-Leaders (2000)

<http://www.crito.uci.edu/tlc/findings/aera/>

Margaret Riel and Hank Becker

This report identifies characteristics of exemplary leaders and examines technology integration of teacher-leaders vs. the general teacher population, through a survey study of 4,000 American educators.

Teacher Use of Computers and the Internet in Public Schools (2000)

<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000090>

National Center for Education Statistics

This Statistics in Brief discusses public school teachers use of computers and the Internet and their feelings of preparedness to do so. The Brief examines teachers own applications of these tools as well as the assignments they give their students to use computers or the Internet. The Brief examines these issues in the context of teachers' experience, teachers' professional development, school level, and school poverty level.

Research References:

Rachel, Haynes. SIIA Releases Report on Effectiveness of Education Technology. 24 Aug. 2000. The Software and Information Industry Association. 16 June 2002

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Key Building Blocks for Student Achievement in the 21st Century. June 2001. CEO Forum. July 2001 <http://www.ceoforum.org/downloads/report4.pdf>.

Johnson, Margaret . New Roles for Educators. Jan. 2000. Milken Family Foundation. June 2002 <http://www.mff.org/edtech/>.

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Touching the Future: Final Report . 2002. American Council on Education. June 2002
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Helping Teachers Teach Well: Transforming Professional Development. June 1995. The Consortium for Policy Research in Education. <http://www.ed.gov/pubs/CPRE/t61/index.htm>

10. Increasing Accessibility

Presently, all teachers in Jefferson County have Internet access in the classroom. All elementary schools and all middle and high schools have computer labs. As outlined in the Timeline, we are planning to add labs at many of our schools throughout the next few years. It is also our plan to add and upgrade computers each school year to ensure strong hardware support in each classroom. (The addition of new computers is based on funding opportunities.)

11. Equity

Each school has a laptop available for teachers to check out and take home to help develop computer skills, use programs available at school, and for those teachers who do not have access to a computer at home. Title One Schools received additional funds which were used to acquire additional technological resources.

In Jefferson County we plan to:

- Provide minimum standards of hardware and software for all students, staff, and sites.
- Implement grade level technology goals identified to ensure equity of delivery to all students (see Learning Goals).
- Expand and enhance communications to provide parents/community greater access to school information and staff.
- Enable students/parents/community, via telecommunications, access to school learning resources, classroom lessons/assignments and school information 24 hours a day.
- Promote and encourage an active partnership between schools, businesses, homes and the community.
- Provide a teacher station that is comprised of: computer, laser printer, 32" TV monitor, Microsoft Office Suite, and movable cart for every classroom teacher.

12. Professional Development

Long-term staff development projects will be provided to Jefferson County teachers aimed at the integration of technology into the curriculum. Journals and follow-up sessions and classroom visitations will provide the instructional technology trainer and the district technology director a means of assessing the success of technology integration. Technology integration workshops will also be held afterschool and during the summer months. Documentation of teacher participation will be recorded through sign-in forms and posted online at the county website (<http://jc-schools.net/techupdate/records.html>). Course objectives, an agenda, and a course handout will be provided. Lesson Plans, activities, and materials created through workshops will be posted online for usage by other teachers in the system or for any educator with Internet access. Journals and surveys will be conducted to determine staff development effectiveness. Jefferson County has a full time district Instructional Technology Specialist to providing ongoing faculty and administrator training in the following areas:

- Word processing
- E-mail, including attachments, use of e-mail for classroom projects
- Basic computer use and maintenance
- Electronic student management software
- Library electronic catalog software
- Desk-top publishing and teacher web pages
- Online resources such as free web quests, online videos, and Power Point activities
- Grant writing to provide technology integration
- Online lesson plans aligned with state standards
- Clarity to analyze state standardized test data
- Multimedia presentation
- Networked application software
- Database software
- Content area software
- Web-authoring software
- CareerScope and CSAS (IEP development) software
- Curriculum Designer (mapping and aligning curriculum)
- Skills Connection
- Accelerated Reader
- CPS system (Classroom Performance System)
- District Gradebook software
- Technology integration strategies

2004 Summer Technology Professional Development Workshops include:

WebQuest

- Participants will create an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet.

PowerPoint Make and Take

- Participants will utilize PowerPoint to create presentations aligned with state curriculum standards which will be posted online for others to utilize.

Write On

- Participants will learn how to instruct in the Four Square writing method and examine teacher-created resources that emphasize the use of technology to improve composition skills in grades 3, 4, and 5.

Make-and-Take Word Game Boards

- Participants will use Microsoft Word to create game boards and game cards, an entertaining way to practice skills or reinforce vocabulary concepts. Word and game cards to use with vocabulary, science, math, social studies, and/or language arts skill practice. Game cards will be printed on Avery-type business card sheets which can easily be separated, and game boards will be printed in color on heavy weight paper. Game boards created will be added to the online collection and be available for download.

Creating A Classroom Website

- Participants will create and upload a classroom webpage and learn to insert images, hyperlinks, and tables. Classroom webpages will be hosted on a county server.

Course Portals

- Participants will develop a course portal, a webpage that is a collection of websites which address a topic aligned with state curriculum standards which will be posted online for others to utilize. Students can then utilize the portal as a “one stop” online reference.

Basic Computer Classes

- A collection of beginner courses (Windows, Internet, Word, Excel, and PowerPoint) will be offered if there is an interest in courses at this level.

Why Reinvent the Wheel?

- Participants will examine the wealth of tools available to the classroom teacher online. These ready-made educational resources were developed to enhance instruction and technology integration, assist in planning, and engage learners, saving valuable time. Why reinvent the wheel?

Make and Take Workshop

- Participants will create Bingo game boards to reinforce reading, science, and social studies vocabulary and content.

Follow up sessions will be provided through after-school workshops throughout the school year.

Professional Development Projects for 2004-2005 School Year

Ed Tech Professional Development (Title II Part D)

- **Science & Social Studies Online** TerraNova scores will be evaluated to determine academic weaknesses in the areas of science (**Science Online**) during the first semester and social studies (**Social Studies Online**) during the second semester focusing on grades 2-8. The technology staff development project will be developed to address the areas of need in these subjects. Through technology, students will be exposed to a variety of strategies, and teachers will be introduced to instructional technology activities aimed at achievement improvement. The project will offer multiple alternative instructional approaches to address unique individual learning styles in students. Teachers in the project will create grade level resources aligned with the state curriculum framework and integrated with technology. Teachers participating in the project will attend a monthly professional development workshop which will be documented through a sign-in sheet and through individual journals. Each month a new strategy that integrates technology will be explored as a means of reaching the goal of improving student skills. Upon returning to the classroom, teachers will then implement that strategy with their students. Participating teachers will record monthly journal entries sharing successes and failures of their monthly endeavor. Participants will also create online resources to be shared and downloaded via the web. Additional assistance to the classroom teacher will be provided as the journal entries indicate need. Those participating in the project will be representative of the elementary and middle schools. At the end of each semester, teachers will complete a final evaluation of the project. The final evaluation will determine the teacher's attitude changes toward the implementation of technology into instruction. A comparison of student achievement gains as a result

of exposure to a technology-based approach will be compiled.

- **netTrekker** If funding allows, a subscription of netTrekker will be purchased for each of our schools. Other counties who have utilized Title II Part D funds to purchase this service have given it high marks as an instructional tool. Training in the utilization of the K-12 web-based resources will be conducted at the Tech Center. These online resources also align with each state's academic standards and benchmarks and can be used in the classroom to stimulate instruction and learning. netTrekker fuses technology, state standards, curriculum, and the Internet. A "Train the Trainers" approach will be utilized in the implementation of this resource. A sign in sheet for participants will provide documentation of participation. The effectiveness of this resource will be analyzed through an online survey at the end of the subscription year.

On-line course catalog and tutorials are posted monthly on the Jefferson County School website.

Additional professional staff development are provided to teachers, administrators, and technology staff through attendance at the Administrator's Technology Academy, Tennessee Educator's Technology Conference, and TETA Summer Institute.

Each school has professional development assistance provided by a school-based technology contact, technology facilitator, and technician.

13. Budget

See Timeline, items subject to funding.

14. Interoperability

A. File Servers

Microsoft Windows NT and Microsoft Advance 2000 Server are all used throughout Jefferson County Schools. Shared applications and data reside on all servers throughout the district.

B. Printing Services

Networked print server devices are used with TCP/IP for some DEC/VMS remote print services. All computers have access to printing.

C. Other Services

- Ten-Nash provides e-mail in addition to SMTP gateway services. All new staff are provided an email account through Ten-Nash. ENA provides Internet caching services for Jefferson County High School.
- Domain Name Service (DNS) is provided via ENA servers. DNS files are maintained within the district.
- DHCP service is provided District-Wide.
- Library cataloging service is provided at all schools.
- Student records, fiscal and human resource databases reside at the local school on a server. Centralize data resides at the technology office on Microsoft Windows NT server.
- The district maintains 3 district wide web servers. (jc-schools.net, classroom.jc-schools.net, and jchs.jc-schools.net)

- The district maintains one email server. (mail.jc-schools.net)
- Jefferson County Schools supports an Internet filtering server through ENA.
- Linux firewall servers are provided at every school and the central office.
- Jefferson County supports over 8,500 users and 20 file servers, the Family Resource Center, Adult High School, and the LEA.

D. Management

Microsoft Proxy Server and Linux firewalls are used to protect and manage our users' access to resources on the Internet. Trend Micro software is used to protect our email server from viral and spam attacks. McAfee Anti-virus and AVG is used to protect all of our servers and workstations from viruses. Fortress is used to manage all workstations and control users' abilities to change workstation settings.

E. Internet Connection

E.1 Frame Relay

The district Internet connection is a frame relay, 1.544 megabit per second T-1 with a committed information rate of one-half T-1. The high school has two T1 connections. Internet services are provided by the Connect-TN provider for the State of Tennessee. Internet connection routers are physically located at the school sites and connect back to the Knoxville ENA tap.

E.2 Internet Service Provider

Connect-TN provides the district's with IP addresses. Maintenance and issuance of IP addresses and names assigned to the district are done by district technical staff.

E.3 Fully Networked

All PC compatible networked workstations are at least Intel or AMD CPU class computers. Computers in the district include Pentium and AMD quality. There are currently more than 1 computer to 3 students fully, networked workstations in the district.

E.4 Productivity

The Microsoft Office suite comprise the district's primary personal productivity software package. Netscape Composer is the district's primary web development software.

F. VCR and Video Monitors on Carts

Each school has numerous VCRs and every classroom has 32" TV monitors on carts.

G. Wiring

New and renovated facilities will be equipped with Category 5 Unshielded Twisted Pair or subsequent high-speed wire standard certified to 622 Megabits per second. Every classroom and administrative workspace has at least one outlet. All schools have fiber riser and backbone.

H. LAN Protocols

The district will adopt IP/IPV6, VPN , and NetBEUI and/or other high-bandwidth quality of service protocols as evolving standards certify them for use and common acceptance drives their price into affordable ranges.

I. Software

The district will continue to maintain and update a standard set of contemporary software for educational, personal productivity and administrative uses. The Microsoft Office Professional suite is the district standard. Client software will be upgraded to keep pace with evolving Windows standards; server software will parallel this evolution. Hardware upgrades will be a continuing necessity to meet the ever increasing processor and memory requirements of more demanding client and server software implementations. All software will be maintained at a functional revision level.

The district workstation paradigm will also continue to evolve. The first notable shift will be away from a model that installs all software on a local hard drive to one that places more emphasis on server delivered applications. The emergence of Net PCs and Thin Client systems will necessitate a continuing review of software delivery methodologies as these technologies mature.

J. Electrical Capacity

The district will continue applying electrical standards to its sites to provide adequate levels of service and to afford adequate protection of equipment. Planning for new construction and existing building renovations will include provisions for a comprehensive review of electrical capacity requirements to ensure that technology enhancements are considered and included in project engineering and design.

15. Leadership

The Jefferson County Schools administrators will play an integral role in the effective integration of educational technology. The most effective way administrators can promote technology use is to, themselves be knowledgeable and effective users of technology. Administrators will be expected to follow the Technology Standards for School Administrators developed by the Collaborative for Technology Standards for School Administrators, (to view the complete list of standards, link to http://cnets.iste.org/tssa/view_standards.html). Administrators will be an advocate in the schools for research-based effective practices in use of technology. They will also support the district technology plan and administer its components in their local schools to achieve the plan's goals and objectives. Administrators in Jefferson County Schools also feel that modeling effective practices and uses of technology are an integral part of technology integration. Administrators will ensure that each staff member has the opportunity to engage in professional development to enhance their classroom instructional procedures.

16. Review of Policies and Procedures

Jefferson County Schools has an acceptable use of technology and the Internet policy for students and teachers. Jefferson County Schools also provides ENA blocking and filtering of Internet sites.

Jefferson County Schools is in compliance with the Child Internet Protection Act (CIPA).

17. Evaluation

Administrators, teachers, and students will complete an online, self-evaluation rubric based on the Mankato Scale, developed by Mankato (Minnesota) Public Schools and adapted by Bellingham (Washington) Public Schools, for a sample see <http://www.bham.wednet.edu/tcomp.htm>. The results will be used to plan further district in-services and school-wide professional development activities. The district technology steering committee will meet yearly to evaluate progress and update district plan based on needs assessment. The school technology team will develop school site plans and make recommendations and/or request to the system director of technology and/or the district technology steering committee.

Ed Tech Professional Development Evaluation

TerraNova scores will be evaluated to determine academics. A technology staff development project will be developed to address the area of need. Through technology, students will be exposed to a variety of strategies and teachers will be introduced to instructional technology activities aimed at achievement improvement. The project will offer multiple alternative instructional approaches to address unique individual learning styles in students.

Participating teachers will attend a monthly professional development workshop. Each month a new strategy which integrates technology will be explored as a means of reaching the goal of improving student skills. Upon return to the classroom teachers will then implement that strategy with their students. Participating teachers will record monthly journal entries sharing successes and failures of their monthly endeavor. Follow-up classroom modeling of technology strategies will be conducted by the LEA instructional technology specialist. Additional assistance to the classroom teacher will be provided as the journal entries indicate need.

Teachers will complete a final evaluation of the project. The final evaluation will determine teacher's attitude changes toward implementation of technology into instruction. A monthly sign in form will document teacher participation in the training. A comparison of student achievement gains as a result of exposure to a technology-based approach will be compiled.

Appendix C 2004-2005 TECHNOLOGY BUDGET

Area	
New Technology (Teacher/Software)	135809
Plato Maintenance	2475
Travel/TETC	8000
Inservice Materials	1000
Technology Center	5000
Network Upgrades	35000
Maintenance	35000
Administrative Upgrades	15000
Total Local Funds	237284
Special Projects	
250 days professional leave	12716
Horizon Maintenance	23972
Total Special Projects	\$36,688
ERATE 2004-2005	
Connectivity Upgrades ENA	22000
Computer Upgrades	25000
Servers	10000
Total E-rate Spending	57000

Ed Tech Professional Development Evaluation (Title II Part D) Budget

1. Science & Social Studies Online				
	Number of Teachers	Number of Days	Substitute Daily Salary	Total Cost
Professional Leave Days	21	8	\$ 50.86	\$ 8,544.48
Software				
Item info	Unit Price	Quantity	Total	
PowerPoint Project Resource Kit Educational Resources	164.95	4	\$ 659.80	
Orchard Science Software				\$ 7,500.00
Multimedia Projects for PowerPoint Educational Resources	\$100.95	4	\$403.80	

Hardware	Item info	Unit Price	Quantity	Total
QX3 Digital Microscope Educational Resources	93967WG	134.9	21	\$ 2,832.90

2. netTrekker				
Yearly Subscription Cost		Per Student	Number of Students (k-8)	Total
netTrekker		0.7	5189	\$ 3,632.30
	Number of Teachers	Number of Days	Substitute Daily Salary	Total Cost
Professional Leave Days for Training Trainers	21	1	\$ 67.82	\$ 1,424.22
Ed Tech Title II Part D Grand Total				\$ 24,997.50