City of Colonial Heights Public Schools Three-Year Technology Plan 2004 - 2007

Planning for an Effective Educational Technology Program

Approved by the School Board on June 22, 2004

Reviewed by the Virginia Department of Education and found to be in full alignment with the Educational Technology Plan for Virginia

Table of Contents

Editor: Mark D. Webster, Director of Technology and Learning

Introduction

This three-year technology plan is designed to serve as a blueprint to guide City of Colonial Heights Public Schools in constructing a division-wide comprehensive educational technology program. The development of the plan involved teamwork by various stakeholders who worked together to articulate a vision and plan of action for the future.

Developing a long-term six-year plan can often prove challenging. Looking to the past, our school division previously developed six-year technology plans in 1994 and 1998. In 1994, the Technology Task Force developed a six-year technology plan that was slated to run for the time period from 1994 – 2001. This technology plan was well written and organized, and established objectives related to such matters as training and support, and an implementation schedule for computer hardware and infrastructure upgrades. In retrospect however, this plan tried to be too ambitious in forecasting several years into the future in the attempt to plan a long-term schedule of technology upgrades. Much of what was defined in the implementation schedule became obsolete within a short period of years.

Another six-year technology plan was developed by central office staff in 1998, which was slated to run for the period from 1999 – 2005. This plan was not as comprehensive as the previous technology plan, but was written largely in response to two new state mandates. The technology plan addressed the need for teachers to demonstrate proficiency with competencies set forth in the Virginia Department of Education's Technology Standards for Instructional Personnel (TSIP) initiative. The plan also addressed student competencies related to the Virginia Computer Technology Standards of Learning. While this plan addressed important needs related to instructional technology, it did not establish new goals and objectives related to hardware or infrastructure upgrades.

In 2003 the Virginia Department of Education made public the new Educational Technology Plan for Virginia. The state plan is based upon solid research related to K-12 educational applications of technology, and best practices related to using technology for teaching and learning. The plan takes a balanced approach, and addresses the various components that a comprehensive technology plan ought to include. School divisions are required to align local technology plans with the state plan.

After studying the previous technology plans for our school division, and reflecting on the difficulties of trying to forecast too far into the future, the decision was made that the ideal way for us to proceed was to focus on developing a practical and realistic three-year plan. The Technology Planning Committee was organized, and given the mission of developing a three-year plan to serve as a blueprint to guide our school division in constructing an effective division-wide educational technology program. The technology plan developed is a comprehensive plan that explores five broad areas related to technology, and includes goals, targets, and implementation strategies for connectivity, technology integration, educational applications, professional development, and accountability. Our technology plan will be an integral component of our school division's Six-Year School Improvement Plan.

Technology Planning Committee
City of Colonial Heights Public Schools
2003 – 2004

Chair

- Mark Webster, Director of Technology and Learning, Technology Planning Committee Chair, Connectivity Sub-Committee Co-Chair, Technology Plan Editor

Administration

- Dr. M. Jo Bunce, Assistant Superintendent of Instructional Services, Vision Statement Sub-Committee Chair
- Mark Webster, Director of Technology and Learning, Technology Planning Committee Chair, Connectivity Sub-Committee Co-Chair
- Dr. Jo Read, Director of Support Services, Professional Development Sub-Committee Chair
- Doug Adams, Network Administrator, Connectivity Sub-Committee Co-Chair

Colonial Heights High School

- Lambros Deligan, Teacher, Colonial Heights High School
- Bonnie Ericson, Library Media Specialist, Colonial Heights High School
- Dianna Gustinis, Technology Paraprofessional, Colonial Heights High School
- Debbie Marshall, Student Information System Administrator
- Buddy Palatiere, Teacher, Colonial Heights High School
- Paul Riding, Teacher, Colonial Heights High School

Colonial Heights Middle School

- Kathryn Brannan, Teacher, Colonial Heights Middle School, Integration and Educational Applications Sub-Committee Chair
- Chuck Davis, Teacher, Colonial Heights Middle School
- Christine Dube, Teacher, Colonial Heights Middle School
- Marjorie McCallister, Technology Paraprofessional, Colonial Heights Middle School
- Linda Sadler, Library Media Specialist, Colonial Heights Middle School

Lakeview Elementary School

- Frank Freudig, Principal, Lakeview Elementary School, Accountability Sub-Committee Chair
- Debra Mayes, Lakeview Elementary School
- Gayle Miller, Library Media Specialist, Lakeview Elementary School

- Denise Underhill, Technology Paraprofessional

North Elementary School

- Julie Bowles, Technology Paraprofessional, North Elementary
- Lisa Kohan, Teacher, North Elementary School
- Stephanie Walker, Library Media Specialist, North Elementary School

Tussing Elementary School

- Elizabeth Luck, Teacher, Tussing Elementary School
- Claire Goulder, Technology Paraprofessional, Tussing Elementary School
- Pat Shaffer-Gottschalk, Library Media Specialist, Tussing Elementary School

School Board

- Karl W. Christman

Community Representatives

- Dave Duncan, Parent, Colonial Heights High School
- Abby Lynch, Parent, Colonial Heights Middle School and Colonial Heights High School
- Karen Saunders, Web Administrator, City of Colonial Heights

Methodology for Technology Planning Process

Conduct Research

During his first year with the school division, the 2003-2004 school year, the new Director of Technology and Learning began preparation for the technology planning process by conducting a process of research and study. He attended presentations related to the new Educational Technology Plan for Virginia, conducted by officials from the Virginia Department of Education. Literature was reviewed to identify best practices related to integrating technology into teaching and learning, and to identify technology trends and cutting edge technologies. Previous technology plans for Colonial Heights were read and studied, and technology plans for other schools divisions in Virginia and elsewhere were studied for purposes of guidance.

Needs Assessments: Surveys and Interviews

During the early part of the technology planning preparation process during the 2003-2004 school year, time and effort was spent preparing to do some new needs assessments. However, in getting ready to begin a series of online surveys, it was discovered that a Technology Review Team made up various stakeholders from the school division had already laid the groundwork, by completing extensive work with needs assessments in 2002. These needs assessments in 2002 included student surveys of recent graduates, and interviews of college students, teachers, business people and members of the community. The data was studied and reviewed, and it was determined that this data was still valid and relevant and needed to be considered in the technology planning process. The results of these surveys and interviews are included in the Appendices.

As previously stated in the Introduction, one of the focus areas for the school division's technology plan from 1998 had been on student computer technology skills related to the Virginia Standards of Learning. Overall, a review of data from the needs assessments showed that there had been some success in our school division with preparing our students with important computer technology skills. To summarize the survey data, generally recent graduates reported that they were well prepared to use productivity applications like word processing, spreadsheet, and database applications. For example, when presented with the survey item "I am proficient in using spreadsheets in analyzing, organizing, and displaying numerical data, 77.1% of graduates responded either "Agree" or "Strongly Agree." However, there were many comments and recommendations that the school division should move away from the Lotus SmartSuite to the Microsoft Office applications.

Although most students reported that they felt prepared to utilize productivity applications, students generally reported that they were not as well prepared to create multimedia-rich presentations. Only 45.9% agreed or strongly agreed with the survey item "I am proficient in integrating video and digital images to create multimedia presentations."

Students reported that they felt well equipped to do Internet research as only 2.1% of students disagreed with the item "I am proficient in the use of the Internet for research purposes." However, only 38.3% agreed or strongly agreed with the item "I am proficient with web page design."

This data from the survey of graduates illustrates how the school division has made progress with preparing students with important computer technology skills. However, it also shows that there are still key areas where we can improve in preparing our students with the technology skills that they will need to be successful after they leave the school division.

The Technology Review Team's work also included interviews of college students, teachers, business people and members of the community. The interview results are included in the Appendices. It's important for the educators in our school division to prepare students for their future, not our past. The data from the interviews emphasize the importance of preparing students with the technology skills they will need for their future. Access to information technology provides students with the tools and resources they will be using as adults, and it gives students the opportunity to develop skills that will equip them for the workplace and higher education. There were many comments that stressed that our schools should be using the same productivity applications used in colleges and businesses. The interviews commonly emphasized that we should move away from using the Lotus SmartSuite applications and deploy the Microsoft Office applications on our schools. When college students were asked what technology skills they believed students will need to be successful in the job market, 83% responded that our students need to be skilled in using the Microsoft Office applications.

Needs Assessment: Infrastructure Studies

Another needs assessment that was instrumental for this technology plan involved infrastructure studies done by the Office of Technology and Learning. Increasingly, our school division is using more and more online resources and tools. Our ability to access these online resources and tools, and others, depends upon the bandwidth available to our schools.

Online Resources for Instruction

There are many valuable online resources that we have already adopted to benefit teaching and learning in the classroom. For example, Lightspan prepares student for SOL testing by providing a solution for online assessment. Teachers can assess the strengths and weaknesses of students in a timely way, in order to better meet academic content standards. During the spring of 2004, we successfully piloted online SOL testing for the first time at Colonial Heights High School.

Web-based resources in general have revolutionized the way that teachers and students obtain information when doing school research. Strategies such as "Web Quests" are used for inquiry-oriented activities in which student explore a topic using Internet resources. Valuable online information and library resources have been provided to schools by the VDOE.

Online resources are changing the way that teachers teach. Teachers can use streaming video through such services as United Streaming to find digital video and images correlated to state standards. These multimedia resources empower teachers to capture teachable moments in the classroom with dynamic instructional presentations. Students can utilize these clips in various classroom projects.

Online Tools for School Administration

In addition to these online instructional resources, other online tools have been deployed that can provide better efficiency for managing school administration functions. Web-based tools such as IEP Online provide educators with the ability to streamline the process of creating individualized education programs for special needs students. Online tools such as Alchemy provide us with a less paper-oriented environment, and better efficiency in managing documents related to business functions.

The student information system used in Colonial Heights, Star Student provides a more efficient access to student information, enhancing our capacity to make sound decisions based upon data, and making it easier to generate reports. This includes data needed for reports that will be submitted to VDOE.

Our school division is striving to improve our web site, and a web site improvement project will offer us new ways to communicate and publish information. The ability to access the web site easily at all schools will be important.

Bandwidth Capacity over the Wide Area Network is the Key

Our ability to access these online resources and tools, and others, will depend upon the bandwidth available to our schools. Colonial Heights High School serves as the central hub of network activity in the school division, and all Internet access is directed through the firewall and Internet content filter at the high school. Many improvements have been made at the high school to enhance the security, performance, and reliability of our network. However, there is a disparity in our school division with bandwidth and network access. The ISDN lines connecting the three elementary schools and School Administration Office to our Wide Area Network do not allow for equitable access. This has impacted access to both instructional and administrative resources and applications in a negative way. Our elementary schools do not have the same bandwidth available to them as the middle school and high school.

Comparison With Other School Divisions: The Gap

A survey of six area school divisions was conducted, and it was found that in every case, no elementary school in the six other divisions surveyed was connected with anything less than a T-1 connection. The ISDN lines in place at our elementary schools provide a bandwidth capability of 128 kbps. In comparison, a T-1 line provides a bandwidth capability of 1.544 mbps. There is a significant gap between the Wide Area Network infrastructure in place in Colonial Heights and other school divisions in the area. Our WAN infrastructure has aged, and no longer

has the capacity to provide access to the online instructional applications and administrative tools that have already been deployed in our school division.

Need to Increase Internet Bandwidth

Besides the problems related to disparity with our Wide Area Network connections, we do not presently have adequate Internet bandwidth. The single DS1 Internet connection from Network Virginia does not provide adequate bandwidth for Internet resources and applications for the entire school division. Our school division needs to explore the possibility of upgrading this DS1 connection.

Needs Assessment: Analysis of the Work of Participants in the Data Retreat

During March of 2004, staff from the school division participated in a Data Retreat that was conducted by experienced facilitators from Learning Point Associates. Teams from each school and the School Administration Offices worked together to analyze test data, develop hypotheses, and develop plans for school improvement. Although this Date Retreat did not focus on technology planning, the instructional strategies and programs that were identified by teams in the Data Retreat were later considered during the technology planning process.

Needs Assessment: Analysis of Feedback from Community Forums

The school division held a series of Community Forums during the 2001-2002, and 2002-2003 school years. A review of the data from the Community Forums provides some interesting feedback related to technology. At all schools, the integration of technology was cited as something that was perceived to be one of our strengths.

Elementary Schools

There were positive comments about technology at all three elementary schools. At Lakeview it was stated that individualizing instruction with technology had been successful. At North, increasing access to technology was given as something that we'd done well, and also providing great technology programs. At Tussing, positive comments included that there's a good amount of technology available, and that we're strong in technology. Educational applications such as Accelerated Reader and Success Maker were praised in the elementary school forums as being successful programs.

Colonial Heights Middle School

At Colonial Heights Middle School, the two general use computer labs were perceived as being an asset to the school. At the middle school, something that was recommended several times at different forums was that teachers should implement a classroom web page as an instructional tool, and to improve communications with parents. Middle school forum comments also recommended that more content be placed on the web site, with more frequent updates being made. It was suggested that students become involved in web development.

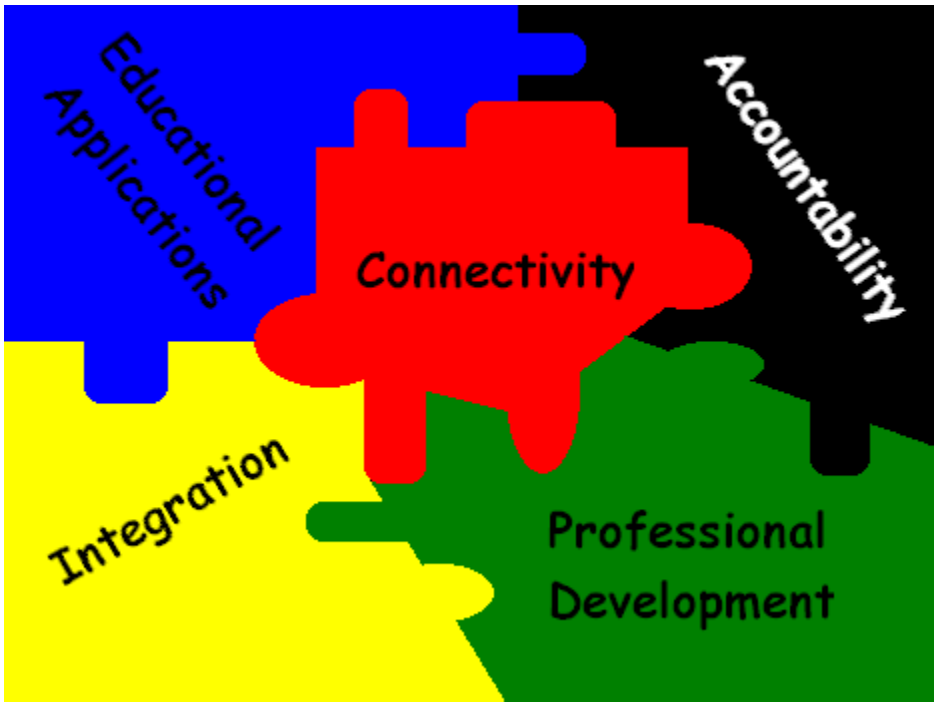
Colonial Heights High School

At Colonial Heights High School, it was expressed that the school division had done a good job providing technology resources. However, it was suggested that the level of computer support and maintenance should be enhanced, and we should continue to upgrade technology. At the high school forums, it was repeatedly emphasized that the school division should deploy the Microsoft Office applications for productivity. Another recommendation that was repeated at the high school was that TVs should be mounted permanently in the classrooms, and interfaced with a computer for classroom presentation. Like at the middle school, high school forum recommendations included that we should improve the web site

Organize the Technology Planning Committee

A Technology Planning Committee was organized with individuals representing various stakeholders. A list of committee members is included in this document on pp. 4 – 5. An "Invitation to Participate" letter was sent to the planning committee candidates. The committee was convened, with Mark Webster, Director of Technology and Learning, serving as the Committee Chair. A project notebook was provided to committee members with introductory information, and the data and results related to the needs assessments completed by the Technology Review Team in 2002. The Technology Plan Alignment Workbook developed by the Virginia Department of Education was customized for Colonial Heights, and provided to the committee to serve as a user-friendly tool for local management of the development of our division technology plan.

Sub-committees were organized so that smaller groups would be dedicated to developing plans pertaining to the five key components of the technology planning process:



The Technology Integration and Educational Applications components were assigned to the same sub-committee because of the close relationship between these two components. A special sub-committee was dedicated to articulating a Vision Statement for our Technology Plan.

A web site was developed to provide a ready way to download the various documents and tools that would be used by the committee. Microsoft Word templates were created to assist sub-committees in developing goals and objectives for the different components in the technology plan. The sub-committees used these templates to expedite writing the plan, and to maintain a consistent format from one section of the document to another. Information from each sub-committee was forwarded to the Technology Planning Committee Chair.

Plan Approval and Alignment

Drafts from the Technology Planning Committee were submitted to the Superintendent to insure that the committee was on the right track. After approval by the Superintendent, the plan was submitted to the School Board, and was approved on June 22, 2004. The plan was then submitted to the State Department of Education to be evaluated with regard to its alignment with goals and objectives of the Educational Technology Plan for Virginia.

Implement the Technology Plan

The Three-Year Technology Plan will present a vision for the use of technology in our schools and classrooms, and will serve as our blueprint for an effective technology program. It will be posted to the school division web site, and distributed to all schools in the division. The Director of Technology and Learning will provide leadership in implementing the technology plan, designating funds and resources where applicable, and monitoring progress toward defined goals and targets, and strategies that will be used to implement the plan and achieve success. Staff from all schools and various departments will work together as a team to implement the technology plan.

Evaluate and Revise the Technology Plan

Evaluation is a continuous, ongoing process, and involves both informal and formal methods. The Director of Technology and Learning and staff in the Office of Technology and Learning will review the plan on an annual basis to evaluate our progress in implementing the plan. The Technology Planning Committee will meet at least twice a year to formally review progress with implementing the technology plan, and to make any necessary revisions. A formal series of online surveys will be conducted of various stakeholders during the three-year cycle, which will enable us to gather feedback related to our progress. It will also enable us to conduct the type of ongoing needs assessments that will provide valuable data as we continually strive to improve our efforts at providing a quality and effective educational technology program for City of Colonial Heights Public Schools.

City of Colonial Heights Public Schools
Three-Year Technology Plan
2004 – 2007

Executive Summary

This three-year technology plan is designed to serve as a blueprint to guide City of Colonial Heights Public Schools in constructing a division-wide comprehensive educational technology program. The development of the plan involved teamwork by various stakeholders who worked together to articulate a vision and plan of action for the future.

Developing a long-term six-year plan can often prove challenging. Looking to the past, our school division previously developed six-year technology plans in 1994 and 1998. In 1994, the Technology Task Force developed a comprehensive six-year technology plan that was slated to run for the time period from 1994 – 2001. This technology plan was well written and organized, but much of what was defined in its implementation schedule became obsolete within a short period of years. Another six-year technology plan was developed by central office staff in 1998, which was slated to run for the period from 1999 – 2005. While this plan addressed important needs related to instructional technology, it did not establish new goals and objectives related to hardware or infrastructure upgrades.

In 2003 the Virginia Department of Education made public the new Educational Technology Plan for Virginia. School divisions are required to align local technology plans with the state plan.

After studying the previous technology plans for our school division, researching the new state plan, and reflecting on the difficulties of trying to forecast too far into the future, the decision was made that the ideal way for us to proceed with a new technology plan was to focus on developing a practical and realistic three-year plan. The Technology Planning Committee was organized, and given the mission of developing a three-year plan to serve as a blueprint to guide our school division in constructing an effective division-wide educational technology program.

This Executive Summary is a condensed form of the plan that includes our Vision Statement, and the goals and targets for each of the five main components of the plan, which are connectivity, technology integration, educational applications, professional development, and accountability. The technology plan as a whole is a comprehensive plan that elaborates on the Executive Summary by articulating the implementation strategies for the goals and targets, including where appropriate specific information related to chronology and implementation responsibilities.

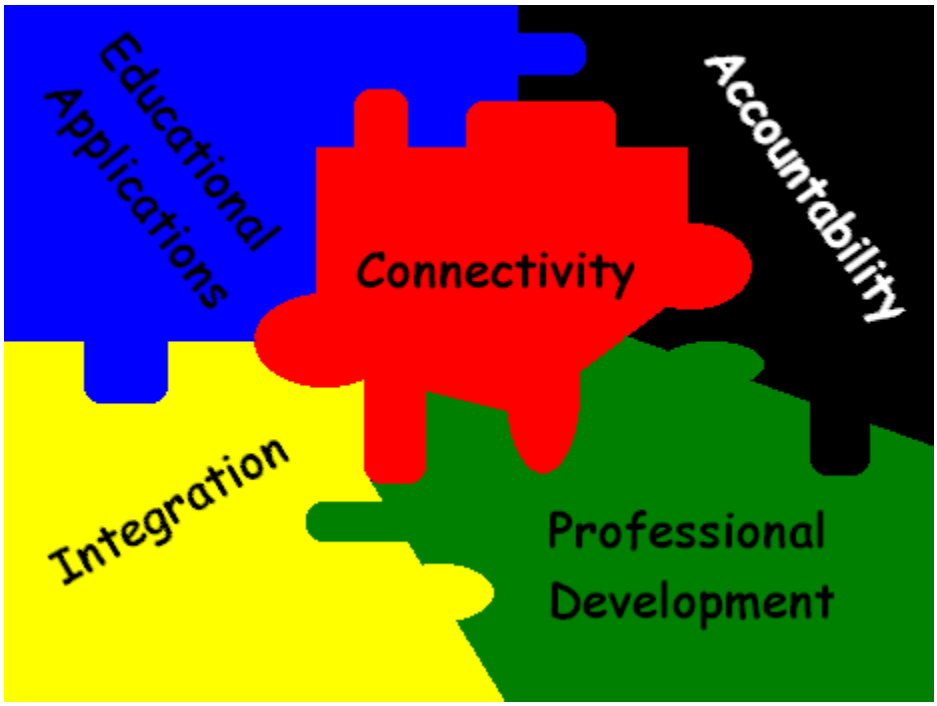
Vision Statement

City of Colonial Heights Public Schools, in partnership with the home and community, will provide each student with a relevant, quality education. All students will be instructed in the achievement of academic knowledge and technology skills to enable them to become independent, productive members of society.

We prepare all students to be successful in an ever-changing technology environment. Our plan of implementation for technology is based on research and best practice as it applies to the following five essential components of a comprehensive educational technology program:

1) Integration - The appropriate use of specific technologies as highly effective tools in facilitating learning across all levels of cognitive inquiry and development
2) Professional development - Teacher training with a specific focus on the Virginia Technology Standards for Instructional Personnel.
3) Connectivity - The development of information technology and infrastructure and the supporting hardware and software.
4) Educational applications - Instructional and administrative software applications, as well as web-based applications and resources.
5) Accountability - Evaluating technology and its value to teaching, learning, data management, and other functions related to our schools.

Goals and Targets for the Main Components of the Technology Plan



Integration

Integration refers to the appropriate use of specific technologies as highly effective tools in facilitating learning across all levels of cognitive inquiry and development.

Goal 1

Improve teaching and learning through the appropriate use of technology.

Targets

1. All staff who work with students either directly or indirectly must be technology literate.
2. Principals and administrators must be able to effectively evaluate and encourage instructional uses of educational technology.
3. Teachers will integrate computer technology skills into their instruction and follow grade level goals for computer technology education as specified by the Colonial Heights Student Technology Skills Handbook.
4. Teachers will understand and model the appropriate use of technology in teaching and learning, and integrate technology into instruction in effective ways.
5. Students routinely use technology in a variety of learning activities across the curriculum.

6. Technology will be used to measure student achievement levels.

Goal 2

Improve division-wide equity in the implementation of technology-enhanced teaching and learning.

Targets

1. Educators and students have equitable access to technology to support instructional goals.
2. Appropriate technology-based instructional strategies are used for students with unique needs.

Professional Development

Professional development covers the training of teachers and other school division staff to be effective users of technology, with a specific focus on the Virginia Technology Standards for Instructional Personnel.

Goal 1

By the end of the three-year cycle for this Technology Plan, 100% of instructional staff will be proficient with Microsoft Office productivity applications to perform tasks that include word processing, creating spreadsheets and databases, and using presentation software.

Targets

1. Professional development opportunities focusing on the productivity applications in Microsoft Office will be offered to staff.
2. Our current implementation of the Technology Standards for Instructional Personnel (TSIP) will be revisited, reviewed, and revised to reflect new productivity and instructional applications installed in our schools.

Goal 2

Training and support will be provided for teachers and staff related to utilizing technology effectively, and integrating technology into the classroom.

Targets

1. Establish an onsite Technology Committee (to include the principal, instructional staff members, and support staff) at each building to assess needs on a regular basis.
2. An instructional technology and staff development specialist with teacher licensure, who is knowledgeable in pedagogy and technology, will be installed at each school. They will

provide professional development opportunities, and support instructional applications of technology in the classrooms. If a lack of funding restricts our ability to provide this resource at every school, this specialist can be shared among multiple schools.
3. Professional development training will be provided to teachers and staff to assist them in reaching competence with key technology skills.
4. Incentives will be provided to staff to encourage them to develop and offer professional development classes for their colleagues. This might include recertification points, monetary awards, or other incentives.
5. School personnel will be encouraged to write grants to fund various professional development activities related to technology.
6. We will implement the improvements detailed in the Connectivity section of the Technology Plan in order to provide schools and classrooms with equal access to hardware, software, and infrastructure needed to use technology tools routinely.

Goal 3

Provide personnel dedicated to technology technical support at each school.

Targets

1. The school division will continue to fund and support technology support positions at each school.
2. The Office of Technology and Learning will work closely with technology support personnel at all schools to assist them in serving technology needs in the school. This will include providing training, and assisting with second level technical support.

Goal 4

Provide training and support for all administrators so that they can model integration of proper educational technology.

Targets

1. Administrative staff will receive professional development training in the use of technology resources, productivity software, and relevant applications.
2. Administrators will be provided with strategies and skills to assist them in providing leadership to encourage teachers to be effective users of instructional technology.

Goal 5

Ensure that adequate funding is available to provide appropriate professional development opportunities for administrators, faculty and staff necessary to perform their administrative, instructional and support functions.

Targets

1. We will avail ourselves of free or low cost professional development opportunities available from existing partnerships and consortiums.
2. We will earnestly seek to establish adequate funding for professional development opportunities related to technology.

Connectivity

Connectivity includes the development of school division electronic infrastructure and the supporting software and hardware that would allow all users to have equitable access to local, state and worldwide educational resources.

Goal 1

Ensure that all schools have access to integrated instructional and administrative services across interoperable high-speed networks.

Targets

1. The Wide Area Network (WAN) connections to the elementary schools and School Administration Office will be upgraded from the existing ISDN lines to higher bandwidth connections.
2. Adequate bandwidth will be available at all schools for online and web-based instructional resources and applications, and for online tools used for managing school administration functions.
3. Local Area Network (LAN) infrastructure will be capable of delivering network data and applications to the desktop in a high-speed and efficient manner. LANs at each location will be inspected, tested and upgraded to be certain that they are all running at rated speeds.
4. Wireless networking will be investigated and implemented in locations where it will provide the most impact for teachers, students and staff.

Goal 2

Ensure sufficient support for ongoing, reliable network operations.

Targets

1. A new twelve month Technology Field Technology and Integration Specialist position will be funded and established for the 2004 – 2005 school year.
2. Regular meetings involving all technology support staff will be scheduled and conducted. These will be used for sharing of information, training and team building. These meetings

will involve staff from the Office of Technology and Learning, and Technology Paraprofessionals from each school.
3. Establish an internal web site dedicated to sharing information and news relevant to technology support.
4. A new web-based and database driven system will be investigated and developed to promote more efficient managing of technical support requests, and the elevation of technical support problems from the Technology Paraprofessional to the Office of Technology and Learning.
5. Maintain a proactive posture for helping to insure ongoing, reliable network operations by addressing fundamentals in advance, before problems occur. Maintenance and inspection schedules will be created, and discussions will be held to try to anticipate problems and failures and take a proactive stance toward possible solutions.
6. Regular support staff training sessions will be scheduled and conducted, with many coinciding with the regular technology support staff meetings.
7. The Office of Technology and Learning will investigate allocating funding for training opportunities to assist technology support staff with training needs.
8. Evaluate policies and procedures related to technology usage and make appropriate revisions.

Goal 3

Provide leadership and resources to promote efficient procurement of infrastructure including identification and procurement of proven existing and emerging technologies.

Targets

1. The Director of Technology and Learning will regularly use various means to discover technology needs, and needed improvements in order to determine needed expenditures.
2. Technology staff will regularly discuss and/or investigate possible sources for outside funding to include grants, gifts and other extraordinary funding opportunities.
3. The Director of Technology and Learning and all technology support staff will proactively seek out solutions for using technology in the day to day running of the school system. They will also investigate new technologies as they arise and attempt to stay abreast of new technological advances that may be of benefit to the school system. A guiding principle for identifying and evaluating technologies will be to determine those technologies that are proven, stable, cost effective industry standards.
4. A guiding principal for adopting technologies will be to deploy technology in such a way that it accelerates the momentum of important school division initiatives.
5. The Director of Technology and Learning and other technology staff will seek outside assistance and advice for major technology initiatives, and be proactive in seeking out new knowledge and professional development opportunities.

Goal 4

Ensure that our division has in place network security, filtering, and disaster recovery plans.

Targets

1. Division technology personnel will make best efforts to keep abreast of options for maintaining the security and integrity of our current software and hardware configurations.
2. The school division will keep current anti-virus software support up-to-date and in force.
3. Data backups are a critical part of running a network and will be run on a dependable, regular schedule, with specific personnel designated for this responsibility.
4. The Office of Technology and Learning will communicate the importance of network security issues to technology staff and general school system staff.
5. Network security will be tested and audited by a reputable outside security consultant.

Educational Applications

Educational Applications include instructional and administrative applications that make use of the infrastructure "highway" referenced in the Connectivity section.

Goal 1

Improve teaching and learning through the appropriate use of network-accessible online or web-based educational applications and resources.

Targets

1. Web-based resources for teaching and learning that effectively support the Virginia Standards of Learning have been identified, developed, and promoted.

Goal 2

Implement and promote Web-based applications, services and resources.

Targets

1. All schools are participating successfully in the Virginia Web-based SOL Technology Initiative.
2. Every school has an efficient, automated library media center connected to the Internet and networked to the school and classrooms.
3. Improve the school division website in order to improve its design and navigational structure, and our capacity to make efficient use of the web site for communication and instructional purposes.

Accountability

Accountability addresses the broad assessment of information technology and it specific value to teaching and learning environments, data management, and decision support functions related to K-12 schools.

Goal 1

Assess the value that information technology adds to teaching and learning environments.

Targets

1. Identify elements of technology integration that benefit the teaching and learning environment.
2. Readiness to integrate technology into teaching and learning has been assessed for each school.
3. Instructional technology integration has been assessed in schools and classrooms.
4. Technology-rich environments and effective technology-based instructional strategies support student learning.

Goal 2

The school division will provide appropriate decision support capabilities for all stakeholders.

Targets

1. Information systems provide comprehensive information about student learning progress.
2. Information systems interface to provide staff members the ability to use appropriate and effective data to make decisions.

Goal 3

Assess information technology literacy.

Targets

1. All students are technology literate.
2. All instructional personnel are technology literate.
3. All paraprofessionals and support staff are technology literate.
4. Students meet expectations for technology utilization pertaining to their subject and grade level as described by school division technology plans.

Goal 4

Ensure that our local technology plan is consistent with the state technology plan.

Targets

1. City of Colonial Heights Public Schools will have a technology plan that is consistent with the components of the state technology plan. All schools in the division will have technology plans that are consistent with the components of our division technology plan.
2. The school division will evaluate annually the progress and effectiveness of our technology plan.

Integration: Goals, Objectives, and Strategies for Implementation

Integration

Integration refers to the appropriate use of specific technologies as highly effective tools in facilitating learning across all levels of cognitive inquiry and development.

Goal 1

Improve teaching and learning through the appropriate use of technology.

Target 1

All staff who work with students either directly or indirectly must be technology literate.

Direct Benefit to Teaching, Learning, or School Administration

School division staff members who are literate with technology are able to communicate more effectively with staff and students. They also set a good example by practicing effective technology utilization.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. The school division will move away from the Lotus SmartSuite applications and deploy the Microsoft Office applications during the 2004 – 2005 school year. This should promote better communication, more efficient sharing of electronic documents, and provide staff with productivity tools that are more industry standard.

2. The school division will continue on an ongoing basis to investigate professional development opportunities related to technology that will benefit teachers, administrators, and support staff. Special emphasis will be placed on training related to the effective utilization of Microsoft Office applications. More specific information related to the implementation of this training is available in the section on Professional Development.

Target 2

Principals and administrators must be able to effectively evaluate and encourage instructional uses of educational technology.

Direct Benefit to Teaching, Learning, or School Administration

Principals and administrators who can effectively evaluate and encourage instructional uses of educational technology are better equipped to provide instructional leadership. This knowledge enhances their ability to make good decisions, to improve instructional practices, and to evaluate teaching and learning that uses technology.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. Professional development opportunities with the Virginia Initiative for Technology and Administrative Leadership (VITAL) will be provided to Administrators to equip them to take advantage of the power of technology to support and improve teaching, learning, and instructional leadership. Instructional Specialist Brian Campos will provide leadership in coordinating this training during the 2004 – 2005 school year.

2. At least one of a teacher's classroom evaluations should be a lesson that integrates technology.

3. Principals will encourage teachers to share lesson plans and presentations to be stored in a central location such as a web site resource or network folder.

Target 3

Teachers will integrate computer technology skills into their instruction and follow grade level goals for computer technology education as specified by the Colonial Heights Student Technology Skills Handbook.

Direct Benefit to Teaching, Learning, or School Administration

All students will be provided instruction consistent with computer technology standards for each grade level and curriculum area. This will also promote equity amongst the schools with respect to the teaching of student computer technology skills.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. The technology skills handbook will be posted to the school division web site for easy access.
2. The current technology skills handbook will be updated during the 2004 – 2005 school year.
3. Teachers will become familiar enough with the computer technology standards that they can integrate technology into lesson plans in order to meet specific grade level or curriculum objectives for technology.

Target 4

Teachers will understand and model the appropriate use of technology in teaching and learning, and integrate technology into instruction in effective ways.

Direct Benefit to Teaching, Learning, or School Administration

Teachers who use technology effectively to enhance teaching and learning in the classroom are using teaching methods that are aligned with best practices and educational research. Using technology in appropriate ways means compliance with School Board policy and the law. Teachers are modeling for students the kind of technology skills that students will need to have to be successful in school, in higher education, and in the workplace. This appropriate use of technology makes maximum use of instructional time.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. Teachers will utilize essential productivity applications like word processing, spreadsheets, databases, and presentation software in the classroom.
2. E-mail will be used to enhance communications. The Office of Technology and Learning will develop an e-mail handbook to assist staff in using the division e-mail system.
3. Training related to using streaming video as a tool for instruction will be provided by library media specialists, technology lead teachers, technology paraprofessionals, staff from the Office of Technology and Learning, or other staff.
4. Existing school division policies related to copyright, computer acceptable use, and computer security will be evaluated and revised if necessary during the 2004 – 2005 school year. The Office of Technology and Learning will coordinate the process of evaluating these documents, and any policy changes will be approved by the Superintendent and the School Board.
5. Principals will remind teachers that access to computers should be limited to valid educational pursuits.
6. The school division will begin to conduct an evaluation of our current implementation of Technology Standards for Instructional Personnel (TSIP) during the 2004 – 2005 school year. A tentative timeframe for implementing changes in TSIP will be the 2005 – 2006 school year.

Target 5

Students routinely use technology in a variety of learning activities across the curriculum.

Direct Benefit to Teaching, Learning, or School Administration

Authentic activities where students utilize technology effectively prepare them with valuable skills for the future. They gain skills that will help to prepare them for further education and the work place of the future.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. In order for students to routinely use technology, it must be available to them at all grade levels across the curriculum. In order to evaluate our current implementation across the curriculum, the Office of Technology and Learning will conduct a new needs assessment process. This will include online surveys, and will involve various stakeholders in our school division.
2. Software and hardware will be updated where appropriate to insure that the technologies that have been integrated into the curriculum are up-to-date and relevant.

Target 6

Technology will be used to measure student achievement levels.

Direct Benefit to Teaching, Learning, or School Administration

Teachers will more readily be able to discern weaknesses in student learning in order to provide remediation, to better meet the needs of individual students, and to encourage students to reach success.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. Assessment tools such as Accelerated Reader will continue to be supported, updated, and promoted.
2. Tools such as Star Reader that have been effective in some schools will be explored for possible adoption in other schools.
3. New online assessment tools will be explored as possible solutions for measuring student achievement.
4. The assessment tool Lightspan will continue to be funded and supported.

Goal 2

Improve division-wide equity in the implementation of technology-enhanced teaching and learning.

Target 1

Educators and students have equitable access to technology to support instructional goals.

Direct Benefit to Teaching, Learning, or School Administration

Improving division-wide equity in the implementation of technology-enhanced teaching and learning will help teachers to better implement their SOL based lesson plans. Improved infrastructure will give teachers the capability to better utilize the instructional technologies that

have already been deployed in the school division, and allow us to consider new and emerging technologies that will benefit teaching and learning.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. Implement the infrastructure improvements referenced in the connectivity component in order to improve division-wide equity.

Target 2

Appropriate technology-based instructional strategies are used for students with unique needs.

Direct Benefit to Teaching, Learning, or School Administration

Students with special needs will be better able to perform the same or similar tasks as the rest of the students. Teachers will be able to make modifications for special needs students.

Strategies to Meet Target (Including Chronology and Implementation Responsibilities)

1. Division educators with expertise in assistive technologies will analyze our current needs, in order to develop sound instructional strategies. They will make recommendations for using instructional technologies to assist students with special needs.
2. Funding will be provided to support the implementation of assistive technologies. The Office of Technology and Learning will request from the Office of Support Services recommendations related to assistive technology when developing the budget.

Professional Development: Goals, Objectives, and Strategies for Implementation

Professional Development

Professional development covers the training of teachers and other school division staff to be effective users of technology, with a specific focus on the Virginia Technology Standards for Instructional Personnel. It addresses collaborative development and the use of courses, instructional materials, teacher licensure and other certification programs, and various staff development delivery models related to the effective integration of technology in K-12 schools. It also includes on-site support programs.

Goal 1

By the end of the three-year cycle for this Technology Plan, 100% of instructional staff will be proficient with Microsoft Office productivity applications to perform tasks that include word processing, creating spreadsheets and databases, and using presentation software.

Targets for Goal 1

1. Professional development opportunities focusing on the productivity applications in Microsoft Office will be offered to staff.
2. Our current implementation of the Technology Standards for Instructional Personnel (TSIP) will be revisited, reviewed, and revised to reflect new productivity and instructional applications installed in our schools.

Strategies to Meet Goal 1 Targets

1. Utilize in-house expertise to provide targeted training to faculty and staff.
2. Develop and post web-based instructional materials to assist in training staff to use productivity applications.
3. Use the resource *Teaching with Technology: Self-Paced, Computer Skills Training for Educators*, developed by the Virginia Department of Education and Prince William County Public Schools.
4. Provide training and support using resources or training providers from outside the system, including WCVE personnel, other partnerships, and commercial training providers.
5. Establish an onsite Technology Committee, to include the principal, instructional staff members, and support staff, at each school to assess needs on a regular basis.
6. The Technology Planning Committee, Director of Technology and Learning, administrators and educators in the school division will collaborate in order to update the school division’s policy and procedures for insuring that instructional staff are competent

with technology and the Virginia Technology Standards for Instructional Personnel (TSIP).

Goal 2

Training and support will be provided for teachers and staff related to utilizing technology effectively, and integrating technology into the classroom.

Direct Benefit to Teaching, Learning, or School Administration

Providing quality technology training and support will result in teachers who are more productive, and who are skilled in integrating technology effectively in the classroom, and who are competent in modeling the effective use of technologies for their students.

Reality and Gap

Instructional staff members often rely on traditional instructional methods rather than taking the risks associated with the use of new technologies. There are not enough professional development opportunities to encourage all teachers to become more innovative with instructional methods and strategies. Some teachers do not have equal access to hardware, software, and infrastructure needed to use technology tools routinely.

Targets for Goal 2

1. Establish an onsite Technology Committee (to include the principal, instructional staff members, and support staff) at each building to assess needs on a regular basis.
2. An instructional technology and staff development specialist with teacher licensure, who is knowledgeable in pedagogy and technology, will be installed at each school. They will provide professional development opportunities, and support instructional applications of technology in the classrooms. If a lack of funding restricts our ability to provide this resource at every school, this specialist can be shared among multiple schools.
3. Professional development training will be provided to teachers and staff to assist them in reaching competence with key technology skills.
4. Incentives will be provided to staff to encourage them to develop and offer professional development classes for their colleagues. This might include recertification points, monetary awards, or other incentives.
5. School personnel will be encouraged to write grants to fund various professional development activities related to technology.
6. We will implement the improvements detailed in the Connectivity section of the Technology Plan in order to provide schools and classrooms with equal access to hardware, software, and infrastructure needed to use technology tools routinely.

Goal 3

Provide personnel dedicated to technology technical support at each school.

Direct Benefit to Teaching, Learning or School Administration

The section on Connectivity in the Technology Plan details the benefits offered by having sufficient technical support staff dedicated to resolving technology issues. In addition to the technical reasons, personnel dedicated to technology technical support at each school enhance instruction by supporting teachers in their efforts to utilize technology. Students will benefit directly as a result of this technical support provided in the classroom to make technology integration run smoothly.

Targets for Goal 3

1. The school division will continue to fund and support technology support positions at each school.
2. The Office of Technology and Learning will work closely with technology support personnel at all schools to assist them in serving technology needs in the school. This will include providing training, and assisting with second level technical support.

Strategies to Meet Goal 3 Targets

1. Regular meetings involving all technology support staff will be scheduled and conducted. These will be used for sharing of information, training and team building. These meetings will involve staff from the Office of Technology and Learning, and Technology Paraprofessionals from each school.
2. Regular support staff training sessions will be scheduled and conducted, with many coinciding with regular meetings.
3. The Office of Technology and Learning will investigate allocating funding for training opportunities to assist technology support staff with training needs.
4. The Technology Field Technician and Integration Specialist will play a special role in working closely with school technology support staff.

Goal 4

Provide training and support for all administrators so that they can model integration of proper educational technology.

Targets for Goal 4

1. Administrative staff will receive professional development training in the use of technology resources, productivity software, and relevant applications.
2. Administrators will be provided with strategies and skills to assist them in providing leadership to encourage teachers to be effective users of instructional technology.

Strategies to Meet Goal 4 Targets

1. Professional development opportunities with the Virginia Initiative for Technology and Administrative Leadership (VITAL) will be provided to Administrators to equip them to

take advantage of the power of technology to support and improve teaching, learning, and instructional leadership. Instructional Specialist Brian Campos will provide leadership in coordinating this training during the 2004 – 2005 school year.
2. Professional development opportunities related to using the Microsoft Office productivity applications will be provided to administrators.
3. Administrative staff will demonstrate proficiency utilizing technology resources related to their job description.
4. Administrative staff will be able to evaluate instructional staff on their integration of technology with curriculum.

Goal 5

Ensure that adequate funding is available to provide appropriate professional development opportunities for administrators, faculty and staff necessary to perform their administrative, instructional and support functions.

Targets for Goal 5

1. We will avail ourselves of free or low cost professional development opportunities available from existing partnerships and consortiums.
2. We will earnestly seek to establish adequate funding for professional development opportunities related to technology.

Strategies to Meet Goal 5 Targets

1. We will encourage teachers to participate in training opportunities related to technology offered in conjunction with the Central Virginia Consortium, and work to coordinate and promote these professional development opportunities.
2. We will encourage teachers to participate in training opportunities offered in conjunction with the Southside Virginia Regional Technology Consortium, and work to coordinate and promote such training related to technology.
3. Administrators will consider the cost of technology related professional development opportunities when formulating budget plans.

Connectivity: Goals, Objectives, and Strategies for Implementation

Connectivity

Connectivity includes the development of school division electronic infrastructure and the supporting software and hardware that would allow all users to have equitable access to local, state and worldwide educational resources.

Central Issue

Colonial Heights High School serves as the central hub of network activity in the school division, and all Internet access is directed through the firewall and Internet content filter at the high school. Many improvements have been made at the high school to enhance the security, performance, and reliability of our network.

However, there is a disparity in our school division with bandwidth and network access. The ISDN lines connecting the three elementary schools and School Administration Office do not allow for equitable access. This has impacted access to both instructional and administrative resources and applications in a negative way. In so many ways, adequate bandwidth and infrastructure are the keys to providing our schools with the tools and capacity for effectively utilizing both instructional and administrative resources and applications. Overall, the central issue is that there is a compelling and critical need to develop connectivity that is *built to last*.

In addition to improving the WAN links between schools, Internet bandwidth is also something that needs to be addressed, because the single DS1 Internet connection from Network Virginia does not provide adequate bandwidth for Internet resources and applications for the entire school division.

Finally, a critical element of network connectivity and infrastructure is security. While improvements have been made to address the critical issue of network security, it is imperative that we continually seek to improve the security of our networks.

Goal 1

Ensure that all schools have access to integrated instructional and administrative services across interoperable high-speed networks.

Goal 1 – Target 1 and Target 2

The Wide Area Network (WAN) connections to the elementary schools and School Administration Office will be upgraded from the existing ISDN lines to higher bandwidth connections.

Adequate bandwidth will be available at all schools for online and web-based instructional resources and applications, and for online tools used for managing school administration functions.

Direct Benefit to Teaching, Learning, or School Administration

The WAN provides connectivity for valuable online instructional resources and applications, including online assessment tools, web-based information and library resources, and multimedia resources such as streaming audio and video. The online tool IEP Online is used to streamline the process of creating individualized education plans for students. The online tool Alchemy is used to promote a less paper oriented environment, and to provide better efficiency in managing documents related to business functions. The student information system used in Colonial Heights, Star Student provides a more efficient access to student information, enhancing our capacity to make sound decisions based upon data, and making it easier to generate reports.

Reality

Teachers, students, and staff have experienced often profound connectivity problems as users struggle to access online resources and applications because of limited bandwidth.

Gap

Our elementary schools do not have the same bandwidth available to them as the middle school and high school. The Director of Technology and Learning conducted a survey of six area school divisions, and found that in every case, no elementary school in the six other divisions surveyed was connected with anything less than a T-1 connection. Our ISDN lines provide a bandwidth capability of 128 kbps. In comparison, a T-1 line provides a bandwidth capability of 1.544 mbps.

Strategies to Meet Goal 1, Target 1 and Target 2 (Including Chronology and Implementation Responsibilities)

1. During the spring semester of 2004, the Director of Technology and Learning and the Network Administrator will meet with representatives from different vendors to clarify our needs and articulate possible solutions.
2. The Director of Technology and Learning will submit a report to the Superintendent detailing possible solutions for improving bandwidth and WAN connectivity for City of Colonial Heights Public Schools.
3. School administrators will examine various solutions in order to evaluate practicality, and the relative cost vs. benefit of different solutions.

4. Ideally, improvements will be made to accomplish Target 1 by the start of the 2004-2005 school year.

Goal 1 – Target 3 and Target 4

Local Area Network (LAN) infrastructure will be capable of delivering network data and applications to the desktop in a high-speed and efficient manner. LANs at each location will be inspected, tested and upgraded to be certain that they are all running at rated speeds.

Wireless networking will be investigated and implemented in locations where it will provide the most impact for teachers, students and staff.

Direct Benefit to Teaching, Learning, or School Administration

Our LANs provide each computer user with access to resources on the LAN, connectivity to the internet and access to applications necessary to carry on the business of education. Without the LAN, we have no access to any resources including those over the WAN. Wireless access gives our students, teachers and staff much more flexibility and mobility.

Reality

Students, faculty and staff at times have found themselves unable to access network based resources due to failures of old components, or slow connections. Access is sometimes slow due to congestion on the LAN related to older equipment, and old technologies such as hubs rather than high-speed switches. Access to computers is sometimes restricted because network access is limited because of the lack of available network ports, or inaccessibility of the infrastructure (wiring) from that location.

Gap

Some portions of our LANs are running at slower speeds due to old or malfunctioning equipment. Other locations are inaccessible from the network due to cabling limitations.

Strategies to Meet Goal 1, Target 3 and Target 4 (Including Chronology and Implementation Responsibilities)

1. During the 2004 – 2005 school year the Network Administrator and the Field Technician will inspect the LANs at all locations for damaged equipment, outdated equipment and low speed equipment.
2. The Network Administrator and the Field Technician will make recommendations to the Director of Technology and Learning for improvements or replacements of any questionable equipment.
3. During the 2004 – 2005 school year the Network Administrator and the Field Technician will do site inspections and question school administrators and faculty to determine the best locations in the division for implementation of wireless technology.

4. The Network Administrator and the Field Technician will make recommendation to the Director of Technology and Learning as to what locations should have wireless equipment installed. These will be based on both need and practicality of installation.
5. During inspection of equipment the Network Administrator and the Field Technician will inventory equipment and create a recommendation for long range planning to insure that our capacity stays in step with current industry standards and capacities.

Goal 2

Ensure sufficient support for ongoing, reliable network operations.

Targets for Goal 2

1. A new twelve month Technology Field Technology and Integration Specialist position will be funded and established for the 2004 – 2005 school year.

2. Regular meetings involving all technology support staff will be scheduled and conducted. These will be used for sharing of information, training and team building. These meetings will involve staff from the Office of Technology and Learning, and Technology Paraprofessionals from each school.

3. Establish an internal web site dedicated to sharing information and news relevant to technology support.

4. A new web-based and database driven system will be investigated and developed to promote more efficient managing of technical support requests, and the elevation of technical support problems from the Technology Paraprofessional to the Office of Technology and Learning.

5. Maintain a proactive posture for helping to insure ongoing, reliable network operations by addressing fundamentals in advance, before problems occur. Maintenance and inspection schedules will be created, and discussions will be held to try to anticipate problems and failures and take a proactive stance toward possible solutions.

6. Regular support staff training sessions will be scheduled and conducted, with many coinciding with the regular technology support staff meetings.

7. The Office of Technology and Learning will investigate allocating funding for training opportunities to assist technology support staff with training needs.

8. Evaluate policies and procedures related to technology usage and make appropriate revisions.

Direct Benefit to Teaching, Learning, or School Administration, Targets 1 - 7

The new division-level support position will provide hardware and software support to the schools and will also be involved with delivering training on technology related issues including educational software applications, new hardware, and technology concepts. Team meetings, teamwork, and an efficient technical support system will provide a better coordinated and more targeted support to faculty, staff and students.

By insuring sufficient and effective technology support, and by providing better training opportunities for support staff, system downtime, which adversely affects technology usage, will be minimized and hopefully prevented as much as possible. Taking a proactive posture related to technology support will enhance teaching and learning in the school division.

Reality, Targets 1 - 7

Currently support staff are unable to promptly fix some repairs or fixes simply due to lack of time. This also hinders our capacity for being proactive by identifying and fixing problems before they inconvenience users of technology. There is little organized communication between the various computer support people in the division and as a result many are re-inventing the wheel on a regular basis.

Typically support staff are in a “reactive” posture. Some problem situations are addressed after the fact with resulting downtime and occasional loss of data. Support staff are working on operating systems and hardware on which they have had little formal training. They are having to learn as they go and mostly on their own which causes the daily routine to go slowly. Repairs, installations, and maintenance take longer than they might with more training.

Gap, Targets 1 - 7

In an informal survey of surrounding localities with approximately the same number of students and schools, it was found that Colonial Heights had by far the smallest computer support staff in the region.

Little funding is available for funding formal training related to technology support.

Direct Benefit to Teaching, Learning, or School Administration, Target 8

Vague rules and policies that are difficult if not impossible to enforce will be made clear and enforceable. This will relieve division personnel of making value judgments on questionable activities.

Reality, Target 8

Currently division personnel are confused and frustrated by the vague nature or nonexistence of policies and/or rules pertaining to certain specific activities concerning network, computer and internet usage and access.

Gap, Target 8

Best practices would mean that our school division would develop and implement well-written and succinct policies that outline both infractions and consequences of misuse of technology resources.

Strategies to Meet Goal 2, Targets 1 – 7 (Including Chronology and Implementation Responsibilities)

1. A new Technology Field Technician and Technology Integration Specialist position was proposed and approved by the School Board. During the month of June 2004, interviews will be held and an appropriate candidate will be hired for the new position to begin service on July 1, 2004.
2. Beginning in May 2004 regular weekly meetings will begin to be held to include technology support staff from all schools and division technology staff. These meetings will be used as a test case to determine the most productive interval for holding meetings of this group on a permanent basis. By the beginning of the 2004 – 2005 school year a definite regular schedule of meetings will be established and meetings will begin with the return of staff at the beginning of the new school year.
3. Maintenance and inspection schedules will be created and posted on an internal web site, and discussions will be held to try to air and anticipate any problems or failures.
4. Training will be provided to technology support staff during the 2004 –2005 school year related to effective data backup procedures, and managing backup systems. The Office of Technology and Learning will develop and implement training for school technology support staff.
5. In meetings and other communications, technology staff will be encouraged to voice any concerns they may have with any software, hardware, or other system that they may think is close to or already causing a problem.
6. Inventory information will be gathered and collected into a database along with information on software and hardware information, to include upgrades, so that reports can be run to show when equipment and software may need proactive attention.
7. The Director of Technology will work to establish funding in the budget to provide staff development opportunities related to technology support, and staff will be encouraged or required to attend.
8. In-house training sessions will be conducted by and for technology staff on a regular basis, beginning in the fall of 2004, with emphasis on technology currently in use and those technologies that are to be deployed in the near future. Some training will be scheduled to coincide largely with our regular meetings.
9. Technology staff will be proactive in seeking out new knowledge and professional development opportunities, in order to enhance their abilities.

Strategies to Meet Goal 2, Target 8 (Including Chronology and Implementation Responsibilities)

1. Documents will be created that will clearly convey division policies in language that can be understood by a layman. These documents will be displayed prominently throughout the division's facilities and also published on the division web site.
2. Beginning in the fall of 2004, the newly organized meetings of the division's technology team will be used to discuss existing policies and to solicit ideas and suggestions for possible changes.
3. The Director of Technology and Learning will designate personnel to edit and formalize suggested changes. Included in this document will be recommended consequences or discipline measures.
4. Suggested changes will be provided to administrators or designated staff who will be asked to review and provide feedback relating to the proposed changes.
5. The Director of Technology and Learning will make recommendations to the Superintendent relating to policy changes during the 2004 – 2005 school year.

Goal 3

Provide leadership and resources to promote efficient procurement of infrastructure including identification and procurement of proven existing and emerging technologies.

Target 1

The Director of Technology and Learning will regularly use various means to discover technology needs, and needed improvements in order to determine needed expenditures.

Direct Benefit to Teaching, Learning, or School Administration

The Director of Technology and Learning will be able to keep technology spending plans and infrastructure improvement plans and cost estimates current. Administrators and faculty will be able to make plans for upcoming curriculum based on a good estimation of the availability of technology assets.

Reality

Budgets are sometimes constructed based on best guesses rather than specific recommendations from administrators and faculty, and current estimates of technology costs.

Gap

Budgetary considerations do not always coincide with curriculum needs.

Strategies to Meet Goal 3, Target 1 (Including Chronology and Implementation Responsibilities)

1. The Director of Technology and Learning will request input from technology staff, subject area lead teachers, library media specialists, and administrators on new technology that might favorably impact the delivery of instruction to students.

2. Principals will forward technology funding needs to the Director of Technology and Learning during the budget development process.
3. The Office of Technology and Learning will explore ways to utilize databases to provide a more efficient way of managing the technology budget, and planning for technology upgrades.

Target 2

Technology staff will regularly discuss and/or investigate possible sources for outside funding to include grants, gifts and other extraordinary funding opportunities.

Direct Benefit to Teaching, Learning, or School Administration

Any funding that may be found will be used to help improve the technology experience for our students, staff and administration.

Reality and Gap

Technology expenditures are typically large and necessary but the practical benefits may seem obscure, difficult to justify, and difficult to fund using regular monies from the operational budget. Often school divisions who are able to move technology infrastructure upgrades to the next level are able to do so because of special grants and extraordinary funding opportunities.

Strategies to Meet Goal 3, Target 2 (Including Chronology and Implementation Responsibilities)

1. Staff will utilize time during regular meetings to discuss possibilities, options and suggestions for sources of funding outside the school division and city government.
2. Staff will contact personnel in other nearby school divisions to ask about funding sources that they are using.
3. Staff will contact state and federal agencies to ask about possibilities of funding sources for the division.

Target 3 and Target 4

The Director of Technology and Learning and all technology support staff will proactively seek out solutions for using technology in the day to day running of the school system. They will also investigate new technologies as they arise and attempt to stay abreast of new technological advances that may be of benefit to the school system. A guiding principle for identifying and evaluating technologies will be to determine those technologies that are proven, stable, cost effective industry standards.

A guiding principal for adopting technologies will be to deploy technology in such a way that it accelerates the momentum of important school division initiatives.

Direct Benefit to Teaching, Learning, or School Administration

Students and staff will have more and better tools for education. Administrators will have access to new advances that will assist in the streamlining of mundane tasks so that more time may be spent on curriculum matters.

Reality

Faculty and staff currently spend time performing mundane tasks that could be shortened or alleviated by using technology that is currently available or may soon be available.

Gap

Technology exists that could help faculty and staff better manage time and free personnel to spend more time more effectively on education as opposed to other tasks. There is also technology available that could increase the effectiveness of current teaching methods.

Strategies to Meet Goal 3, Target 3 and Target 4 (Including Chronology and Implementation Responsibilities)

1. The Director of Technology and Learning and all technology staff will monitor industry publications to determine industry standard, new or emerging technologies that would be appropriate for evaluation and testing and possible use in the division.
2. All technology staff will ask questions and listen to conversations with staff and faculty to get ideas of what types of technology might improve preparation and/or delivery of lessons, or that might streamline current day to day activities.
3. Staff will attend area consortium conferences and meetings to converse with other technology professionals and attempt to learn what technology has proven beneficial to other regional divisions.
4. Technology staff will discuss all information gathered during regular meetings to insure that everyone is aware of needs and availability of new technology.

Target 5

The Director of Technology and Learning and other technology staff will seek outside assistance and advice for major technology initiatives, and be proactive in seeking out new knowledge and professional development opportunities.

Direct Benefit to Teaching, Learning, or School Administration

The entire division will have the benefit of advice from the accumulated knowledge of all those involved.

Reality and Gap

Many projects have been undertaken and completed with success. However, with newer technologies and the increased specialization of expertise that is required, no one or two individuals can have knowledge of all aspects of technology that are required to initiate, plan and complete successfully most major and many minor projects. With the smaller technology staff that exists in a smaller division, it is necessary that technology staff wear "multiple hats" and work efficiently as a team.

Strategies to Meet Goal 3, Target 5 (Including Chronology and Implementation Responsibilities)

1. Beginning with the upgrade of WAN lines in the summer of 2004, division technology personnel will utilize the assistance of outside vendors or contractors to advise and/or assist in planning of major projects.
2. Division technology personnel will consult with personnel from other school divisions to discuss and solicit suggestions and general information for major projects.
3. Technology staff will stay abreast of technology developments in the industry in order to monitor and adjust to changes, and make decisions based upon accepted standards.

Goal 4

Ensure that our division has in place network security, filtering, and disaster recovery plans.

Target 1

Division technology personnel will make best efforts to keep abreast of options for maintaining the security and integrity of our current software and hardware configurations

Direct Benefit to Teaching, Learning, or School Administration

Division personnel will be able to use computer technology without fear of data loss or intrusion.

Reality and Gap

There are untold numbers of hackers attempting to take control of any machine they can in order to do mischief. Hackers, viruses, Trojans and other computer hazards are a fact of life in this day and age. No matter where a computer resides it is always vulnerable to various types of attacks.

Strategies to Meet Goal 4, Target 1 (Including Chronology and Implementation Responsibilities)

1. Technology staff will regularly check with the web sites of technology manufacturers to identify updated software and firmware and to make decisions about regular reboots and updates.
2. Technology staff will keep up with current developments in security technology and make educated decisions on when and whether to purchase new devices or software.

3. Technology staff will regularly check for diagnostic tools to test security effectiveness and make use of proper tools for active testing.
4. Technology staff will be proactive in seeking out new knowledge and professional development opportunities to improve network security, filtering, and disaster recovery plans.
5. Job descriptions and instruments to evaluate job performance of all technology staff will be reviewed and revised to insure a culture of professionalism, and dedication to network security.

Target 2

The school division will keep current anti-virus software support up-to-date and in force.

Direct Benefit to Teaching, Learning, or School Administration

Data loss due to virus infections will not be a problem, and instructional and administrative use of computers will be enhances.

Reality

Currently the school division is protected by state of the art anti-virus software. In order to keep this in effect and up to date funding must continue to be allocated, and software support is needed.

Gap

Software must be kept up-to-date to be effective.

Strategies to Meet Goal 4, Target 2 (Including Chronology and Implementation Responsibilities)

1. The Network Administrator will keep track of virus configurations and updates, and will make budget recommendations to insure that software support stays current in future budgets.
2. The Technology Field Technician and Integration Specialist will work closely with Technology Paraprofessionals to insure that they are knowledgeable about anti-virus software and security.
3. Technology Paraprofessionals at each school will be responsible for software updates, and notifying the Office of Technology and Learning if new software updates or new software are necessary.

Target 3

Data backups are a critical part of running a network and will be run on a dependable, regular schedule, with specific personnel designated for this responsibility.

Direct Benefit to Teaching, Learning, or School Administration

Data loss possibilities are minimized.

Reality

Data backups can be overlooked, and their value is critically underestimated until they are needed.

Gap

Backups are usually scheduled but not always tested in a thorough manner.

Strategies to Meet Goal 4, Target 3 (Including Chronology and Implementation Responsibilities)

1. During the summer of 2004 all servers will be checked by the Network Administrator for current and functional backup software and hardware.
2. Any non-functional software or hardware will be replaced by the fall of 2004.
3. Data backup software and hardware on each server will be tested by the Network Administrator.
4. Test runs of backups and restores will be run on each server by the Network Administrator and Field Technician and Integration Specialist during 2004 – 2005 school year and subsequent years.
5. The Office of Technology and Learning will implement a major initiative related to the deployment of Network Attached Storage, to supplement our current methods that focus on tape backup systems. This will begin during the 2004 – 2005 school year and continue during the three-year cycle of this Technology Plan.
6. Technology Paraprofessionals and other designated staff will follow correct backup procedures on a daily basis.
7. The Technology Field Technician and Integration Specialist will work closely with the Director of Technology and Learning and Network Administrator to evaluate our ongoing progress with implementing effective data backup procedures in our schools.

Target 4

The Office of Technology and Learning will communicate the importance of network security issues to technology staff and general school system staff.

Direct Benefit to Teaching, Learning, or School Administration

Sensitive data will be more secure on the network, and data and configurations will not be altered or destroyed.

Reality and Gap

Data is vulnerable to access by unauthorized individuals if passwords are not strong, or if network settings are not secure. Data should be totally secure and available only to authorized users.

Strategies to Meet Goal 4, Target 4 (Including Chronology and Implementation Responsibilities)

1. The Director of Technology and Learning will review and revise our current division policies pertaining to staff attention to computer and network security. This policy will be communicated to school staff through various means during the 2004 – 2005 school year, including during faculty meetings and at other times.
2. Technology staff will stress the need for secure passwords to staff during orientation and at other times.
3. Technology staff will regularly discuss network security during meetings.
4. The Network Administrator will run checks on current network security settings to correct any weak settings.
5. The Network Administrator will acquire and run network based password hacker tool to insure strong passwords are used.
6. The Network Administrator will run thorough file system security checks to begin locking down file and folder security.

Target 5

Network security will be tested and audited by a reputable outside security consultant.

Direct Benefit to Teaching, Learning, or School Administration

The entire school division can be assured of the security and safety of data on our network.

Reality and Gap

Interested parties are unlikely to find all of the weaknesses in security in a system they designed. Also, only someone who specializes in network security is likely to have all of the tools necessary to do a thorough testing of network security. A thorough test of network security will provide us with more certainty concerning the strength of our network.

Strategies to Meet Goal 4, Target 5 (Including Chronology and Implementation Responsibilities)

1. The Director of Technology and Learning will make arrangements with an outside consultant to test our network security.
2. The Network Administrator and Director of Technology and Learning will review the security study and decide on a plan of implementation to fix and correct our security, and bring our security in line with recommendations from the consultant.
3. The Network Administrator and all technology personnel will implement changes and corrections as directed by the Director of Technology and Learning.

4. Meetings will be held to discuss changes and fixes and their apparent impact on network security and performance.

Educational Applications: Goals, Objectives, and Strategies for Implementation

Educational Applications

Educational Applications include instructional and administrative applications that make use of the infrastructure "highway" referenced in the Connectivity section.

Goal 1

Improve teaching and learning through the appropriate use of network-accessible online or web-based educational applications and resources.

Target 1

Web-based resources for teaching and learning that effectively support the Virginia Standards of Learning have been identified, developed, and promoted.

Direct Benefit to Teaching, Learning, or School Administration

Many web-based resources are available that support the Virginia Standards of Learning. Better accessibility to these materials will make it easier for teachers and students to utilize them in the classroom and prepare for SOL tests.

Strategies to Meet Goal 1, Target 1 (Including Chronology and Implementation Responsibilities)

1. Create customized index pages to provide ready access to web-based resources that support Virginia Standards of Learning. Because many indexes either already exist on the web, or have been developed by division teachers, we will explore ways to collect and share this information, and encourage teachers to utilize these resources.
2. Establish a centralized network or web-based resource that teachers can use to share lesson plans and instructional materials.
3. Debra Mayes will be developing an electronic toolbox during the summer of 2004 that will provide teachers with resources to support the Virginia Standards of Learning. This will include links to resources from the Virginia Department of Education, and other valuable web-based resources.
4. Library media specialists will encourage teachers to utilize the online Gale databases provided to Virginia schools.
5. The Office of Technology and Learning will work with library media specialists to evaluate the current situation regarding network-accessible resources, in order to determine any necessary improvements.

Goal 2

Implement and promote Web-based applications, services and resources.

Target 1

All schools are participating successfully in the Virginia Web-based SOL Technology Initiative.

Direct Benefit to Teaching, Learning, or School Administration

Monies available through the Virginia Web-based SOL Technology Initiative provide invaluable assistance in helping us to upgrade the network infrastructure in our schools. These infrastructure improvements not only prepare us for online SOL testing, but they provide us with the capacity to effectively utilize other instructional applications of technology. As we gradually implement online SOL testing, teachers and school administrators will receive SOL test scores more quickly.

Strategies to Meet Goal 2, Target 1 (Including Chronology and Implementation Responsibilities)

1. As appropriate, based upon decisions made by schools and the administration, schools will participate in online SOL testing.
2. Improvements will be made in a methodical, strategic way to equip all schools with the capacity for online testing, in order to insure equitable access at all schools. The Connectivity section of this Technology Plan includes detailed information regarding our implementation plan for upgrading infrastructure in our schools.

Target 2

Every school has an efficient, automated library media center connected to the Internet and networked to the school and classrooms.

Direct Benefit to Teaching, Learning, or School Administration

A school library media center supports the school curriculum, and provides a wealth of readily available information to support research, help with classroom projects, and equip students with valuable information literacy skills.

Strategies to Meet Goal 2, Target 2 (Including Chronology and Implementation Responsibilities)

1. The automated catalogs and circulation systems in place at our libraries will continue to be updated and improved. Library media specialists will provide recommendations relating to necessary updates and improvements to library systems.
2. Special focus during the 2004 –2005 school year will be on analyzing procedures for backing up Winnebago library system data in a consistent and reliable fashion. Under the

direction of the Director of Technology and Learning, the Technology Field Technician and Integration Specialist will evaluate backup systems in place, recommend improvements, and where appropriate help to train library media specialists in best practices related to backup procedures.

3. During the 2004 – 2005 school year, we will utilize the web-based catalog features of Winnebago to provide access to all school card catalogs on the web site.
4. The Office of Technology and Learning will work with school media specialists to expedite the process of setting up and configuring a "virtual library" so that web-based resources are easily indexed.

Target 3

Improve the school division website in order to improve its design and navigational structure, and our capacity to make efficient use of the web site for communication and instructional purposes.

Direct Benefit to Teaching, Learning, or School Administration

A jumpstart seems needed for the division web site. While the site contains much valuable information, the site is not used as effectively, or as often as it should. An easier way for teachers, staff, and students to post information and content is needed. A more dynamic web site will probably make the site more popular with viewers, and improving our methods for publishing content will enhance our ability to update and maintain the information on our web site. Improvements to our web site will serve to promote its use as a tool for communication and instruction.

Strategies to Meet Goal 2, Target 3 (Including Chronology and Implementation Responsibilities)

1. The Student Web Club at Colonial Heights High School that was started late during the 2003 – 2004 school year will be continued during the 2004 – 2005 school year. An earlier start in the school year will enable the group to develop more momentum and make more improvements to the web site. The Student Web Club will work cooperatively with the Omnibus (yearbook) staff at the high school in order to obtain information for publishing on the web site.
2. During the summer of 2004, a web site consultant will be hired to redevelop the design, navigational structure, and programming of the division web site. A database driven dynamic web site will be developed utilizing Macromedia Cold Fusion.
3. The Director of Technology and Learning will participate in Macromedia Cold Fusion training in order to be better equipped to manage the new web site.
4. The Office of Technology and Learning will setup a new database server during the summer of 2004 to support the new database driven dynamic web site. A specialized backup server will be setup and configured to automatically backup the web site on a daily basis.
5. The new dynamic database driven web site will include functionality for teachers and staff to do easy updates of web site content. A "train the trainer" model will be used, with

the Director of Technology training school personnel such as Technology Lead Teachers and others who will work with teachers and staff in the schools to provide training.

6. Licenses for Macromedia Dreamweaver will be purchased, and the Director of Technology will train designated staff such as the Technology Paraprofessionals to use Dreamweaver for web development during the 2004 – 2005 school year.
7. Macromedia Contribute will be explored as another solution for providing teachers and staff with the ability to easily publish web site content. Other school divisions such as Powhatan County Public Schools who are already utilizing this application will be consulted for advice.

Accountability: Goals, Objectives, and Strategies for Implementation

Accountability

Accountability addresses the broad assessment of information technology and it specific value to teaching and learning environments, data management, and decision support functions related to K-12 schools.

Goal 1

Assess the value that information technology adds to teaching and learning environments.

Target 1

Identify elements of technology integration that benefit the teaching and learning environment.

Strategies to Meet Target 1

1. Prepare students for real world work environments.
2. Enhance student interest in learning by making learning an active experience.
3. Provide access to the latest information with technology.
4. Students learn through engaging methods that integrate technology, and students thereby learn valuable and essential technology skills.
5. Provides a means to give individual attention to students.
6. Utilize technology to help teachers focus on teaching.

Target 2

Readiness to integrate technology into teaching and learning has been assessed for each school.

Strategies to Meet Target 2

1. We will evaluate and assess our technology hardware and software resources, connectivity, and infrastructure at all schools on an ongoing basis. An essential component of our Technology Plan will be Connectivity.
2. We will strive to develop a funding plan to provide hardware and software necessary to support education in Colonial Heights.
3. We will assess the level of technology support that is being provided at each school.

Target 3

Instructional technology integration has been assessed in schools and classrooms.

Strategies to Meet Target 3

1. Data collection tools including surveys, inventories, student projects and assignments, interviews, and building visits will assess the degree of technology integration. During the three-year cycle of the Technology Plan, needs assessments will be used to monitor and adjust our implementation of the plan.
2. Staff and stakeholders in the division will be involved in the collection of assessment data and needs assessments.
3. We will identify gaps in the integration of technology for teaching and learning that need attention and strengthening.
4. We will report to our stakeholders, highlighting our accomplishments, achievements and growth.

Target 4

Technology-rich environments and effective technology-based instructional strategies support student learning.

Strategies to Meet Target 4

1. We will assess, analyze and evaluate technology equipment as it relates to instructional needs.
2. We will evaluate our technology utilization for classroom instruction and student learning.
3. We will develop an awareness of the value of technology for teaching and learning, and promote technology best practices and innovative methods.
4. We will review, recommend, and purchase new curriculum-related software.
5. We will assess our use of existing technology-based instructional programs.

Goal 2

The school division will provide appropriate decision support capabilities for all stakeholders.

Targets 1

Information systems provide comprehensive information about student learning progress.

Strategies to Meet Target 1

1. We will strive to increase communication via our school division web site.
2. We will investigate and evaluate our school division's use of our StarBase student information system, gradebook programs, and other systems such as IEP Online, in order to maximize our use of these resources.
3. We will use the Data Disaggregator software to evaluate student learning progress.
4. We will study, evaluate, and implement ways to use electronic tools to expedite report cards and progress reports. In particular the recommendations of the Superintendent's

Advisory Committee, which studied this matter, will be carefully considered in determining the best solution.

Target 2

Information systems interface to provide staff members the ability to use appropriate and effective data to make decisions.

Strategies to Meet Target 2

1. We will investigate and evaluate our school division's use of our StarBase student information system, to identify areas where we can better utilize this information resource to enhance decision making and our capabilities to generate reports.
2. We will explore the need to provide staff with training opportunities that will better equip them to use the student information system for decision making.

Goal 3

Assess information technology literacy.

Target 1

All students are technology literate.

Strategies to Meet Target 1

1. Assess the degree that students are proficient in the use of technology.
2. Encourage the development of positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

Target 2

All instructional personnel are technology literate.

Strategies to Meet Target 2

1. Teachers must create a technology portfolio to show proficiency in Virginia technology standards.
2. Provide professional development opportunities for teachers relating to technology use, and the integration of technology strategies into the curriculum.

Target 3

All paraprofessionals and support staff are technology literate.

Strategies to Meet Target 3

1. Assess the degree that paraprofessionals and support staff are computer literate.
2. Provide training opportunities for all staff related to technology use.

Target 4

Students meet expectations for technology utilization pertaining to their subject and grade level as described by school division technology plans.

Strategies to Meet Target 4

1. Teachers assess students' technology skills and utilization using the Colonial Heights Student Technology Skills Handbook.

Goal 4

Ensure that our local technology plan is consistent with the state technology plan.

Target 1

City of Colonial Heights Public Schools will have a technology plan that is consistent with the components of the state technology plan. All schools in the division will have technology plans that are consistent with the components of our division technology plan.

Strategies for Target 1

1. The Technology Planning Committee will review and assess alignment of the division technology plan with state standards and recommend changes.
2. Individual schools will assess their technology plans and assess alignment with division standards.

Target 2

The school division will evaluate annually the progress and effectiveness of our technology plan.

Strategies for Target 2

1. An assessment of the division's technology plan and its effectiveness will be conducted on an ongoing basis and recommendations made. The Technology Plan will be considered a living, breathing document that is constantly being used as a blueprint to guide the school division in implementing an effective educational technology program.
2. An assessment of each school's technology plan will be made on an ongoing basis to evaluate the effectiveness of the plan, and our success with implementing it.

Fiscal Analysis for City of Colonial Heights Public Schools
Three-Year Technology Plan

Summary

This short-term three-year technology plan was written based on the assumption that its goals and objectives can be accomplished largely without having to rely on extraordinary funding. Generally, funding for this technology plan will come from either of two sources. The school division's operating budget will be able to provide funding necessary to accomplish many of the objectives in this plan. However, to a great extent, funding for many of the larger technology expenditures will require continued funding for technology through Virginia's Web-based SOL Technology Initiative. To supplement the monies available to us through the school division operating budget, and the SOL Technology Initiative, we will also utilize opportunities and funding available through our consortium partnerships.

Virginia's Web-based SOL Technology Initiative

Achieving many of the objectives in the Connectivity component is highly dependent upon being reimbursed from the state for expenditures related to:

1. Providing a ratio of one computer for every five students.
2. Creating Internet-ready local area network capability in every school.
3. Assuring high-speed, high-bandwidth capabilities for instructional, remedial, and testing needs.

The requirements of this funding initiative necessitate beginning with needs at the high school level, and then the middle school level. After both Colonial Heights High School and Colonial Heights Middle School have been certified for online testing, we will then be able to seek reimbursement for eligible technology purchases at the elementary level. The school division hopes to achieve the certification necessary to begin seeking reimbursement for elementary expenditures, as soon as possible, and ideally before September of 2004.

School Division's Operating Budget

We are grateful that our School Board has been so supportive in providing us with necessary funding to support technology initiatives and improvements. For example, our Board approved funding to establish the new division-wide Technology Field Technician and Integration Specialist position. Improving our Internet bandwidth capacity for teaching and learning is a major goal in this technology plan. Ongoing expenses related to Internet access are not reimbursable through the SOL Technology Initiative. However, our Board has approved needed funding to allow us to implement these important improvements that will increase bandwidth capacity in our schools, and eliminate the disparity that has existed at the elementary

school level related to Internet connectivity. Our School Board also approved funding for a major web site improvement project that will enable our web site to be a more effective tool for instruction, and communication with parents and our community.

Consortium Partnerships and Other Funding

Some objectives in this technology plan, particularly related to professional development and technology integration, will utilize opportunities and funding available to our school division through our membership in such consortiums as the Central Virginia Consortium for Technology, and the Southside Virginia Regional Technology Consortium.

Other sources of funding include professional development opportunities available through the Virginia Initiative for Technology and Administrative Leadership, and WCVE/The Community Idea Stations. Our school division will continue to seek out other opportunities to fund programs related to the educational use of technology to improve teaching, learning, and school administration.

Appendices

The following items are included in the Appendices for this Technology Plan:

- Vision Statement Sub-Committee
- Integration and Educational Applications Sub-Committee
- Professional Development Sub-Committee
- Connectivity Sub-Committee
- Accountability Sub-Committee

- Pilot Notebook Program at Colonial Heights High School, End of Year Survey, 2003 – 2004 School Year

- Membership of Technology Review Team, 2002

- Technology Survey of Recent Graduates, June 2002 (Attached in the printed document, and available as a separate electronic file in the electronic version of the Technology Plan)

- Interviews of college students, teachers, business people and members of the community, conducted by the Technology Review Team in June, 2002 (Attached in the printed document, and available as a separate electronic file in the electronic version of the Technology Plan)

Technology Planning Committee
Vision Statement Sub-Committee
City of Colonial Heights Public Schools
2004

- Dr. M. Jo Bunce, Assistant Superintendent of Instructional Services, Vision Statement Sub-Committee Chair
- Elizabeth Luck, Teacher, Tussing Elementary School
- Pat Shaffer-Gottschalk, Library Media Specialist, Tussing Elementary School
- Mark Webster, Director of Technology and Learning

Technology Planning Committee
Integration and Educational Applications Sub-Committee
City of Colonial Heights Public Schools
2004

- Kathryn Brannan, Teacher, Colonial Heights Middle School, Integration and Educational Applications Sub-Committee Chair
- Karl W. Christman, School Board
- Dave Duncan, Parent, Colonial Heights High School
- Bonnie Ericson, Library Media Specialist, Colonial Heights High School
- Claire Goulder, Technology Paraprofessional, Tussing Elementary School
- Lisa Kohan, Teacher, North Elementary School
- Abby Lynch, Parent, Colonial Heights Middle School and Colonial Heights High School, formerly Tussing Elementary School
- Debra Mayes, Teacher, Lakeview Elementary School
- Marjorie McCallister, Technology Paraprofessional, Colonial Heights Middle School
- Denise Underhill, Technology Paraprofessional
- Stephanie Walker, Library Media Specialist, North Elementary School
- Mark Webster, Director of Technology and Learning

Technology Planning Committee
Professional Development Sub-Committee
City of Colonial Heights Public Schools
2004

- Dr. Jo Read, Director of Support Services, Professional Development Sub-Committee Chair
- Christine Dube, Teacher, Colonial Heights Middle School
- Gayle Miller, Library Media Specialist, Lakeview Elementary School
- Buddy Palatiere, Teacher, Colonial Heights High School
- Paul Riding, Teacher, Colonial Heights High School
- Linda Sadler, Library Media Specialist, Colonial Heights Middle School

Technology Planning Committee
Connectivity Sub-Committee
City of Colonial Heights Public Schools
2004

- Doug Adams, Network Administrator, Connectivity Sub-Committee Co-Chair
- Mark Webster, Director of Technology and Learning, Connectivity Sub-Committee Co-Chair
- Julie Bowles, Technology Paraprofessional, North Elementary
- Chuck Davis, Teacher, Colonial Heights Middle School
- Lambros Deligan, Teacher, Colonial Heights High School
- Dianna Gustinis, Technology Paraprofessional, Colonial Heights High School
- Karen Saunders, Web Administrator, City of Colonial Heights

Technology Planning Committee
Accountability Sub-Committee
City of Colonial Heights Public Schools
2004

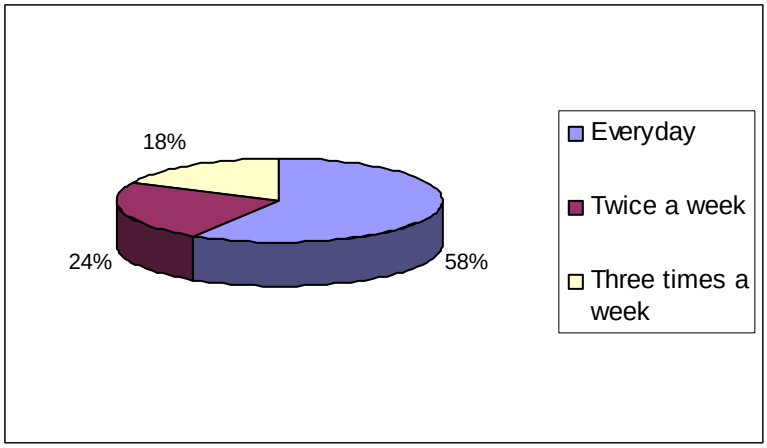
- Frank Freudig, Principal, Lakeview Elementary School, Accountability Sub-Committee Chair
- Debbie Marshall, Student Information System Administrator
- Debra Mayes, Teacher, Lakeview Elementary School
- Paul Riding, Teacher, Colonial Heights High School
- Mark Webster, Director of Technology and Learning

Colonial Heights High School, Pilot Notebook Program
End of Year Survey
2003 – 2004 School Year

There were 17 respondents out of 21 students.

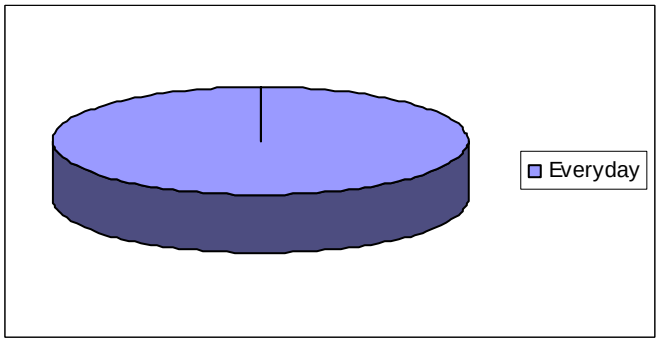
1. How often did you use your notebook computer for instructional assignments?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



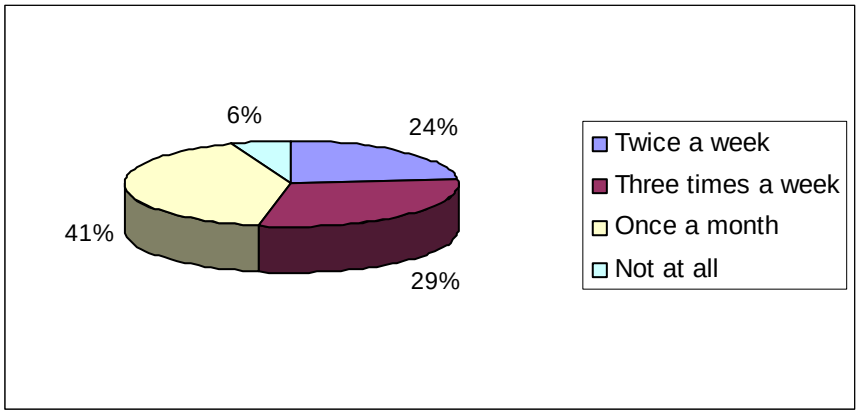
2. How often did you use your notebook computer during Honors Biology class?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



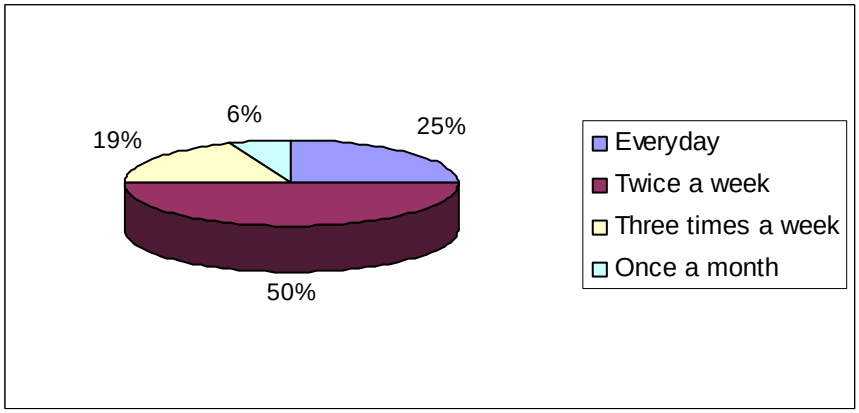
3. How often did you use your notebook computer in other classes?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



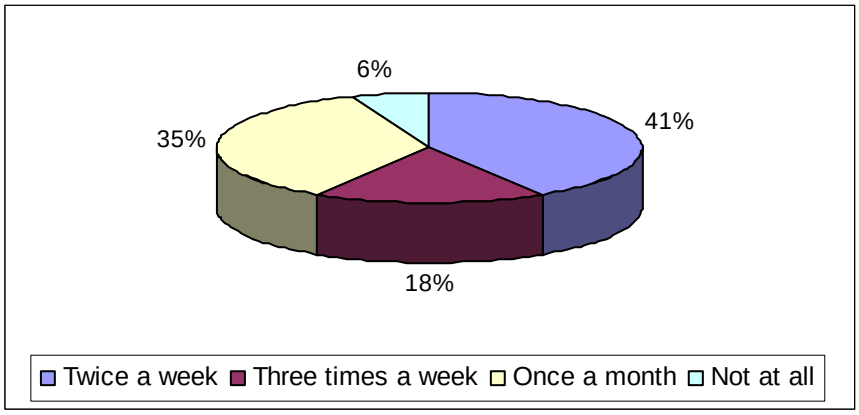
4. How often did you use your notebook computer for homework in Honors Biology class?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



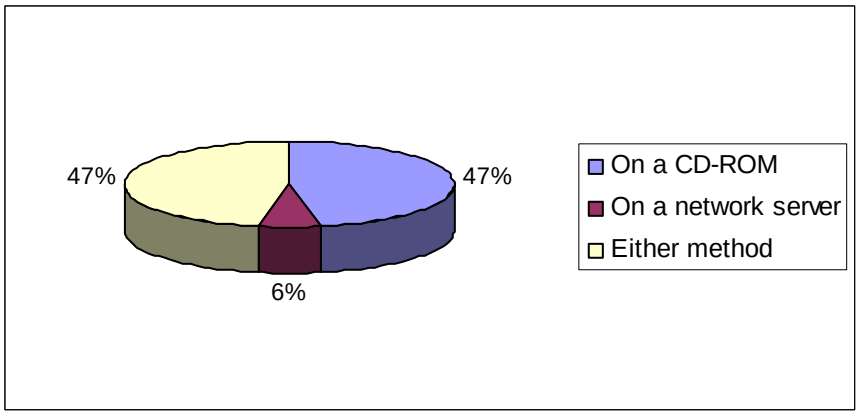
5. How often did you use your notebook computer for homework in other classes?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



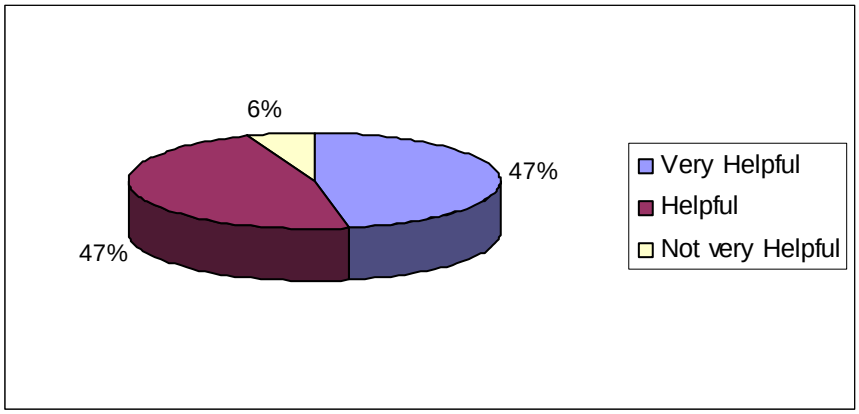
6. Did you prefer to have Honors Biology notes

A. on a CD-ROM
B. on the network server
C. either method



7. The Honors Biology PowerPoint chapter presentations were

A. Very Helpful
B. Helpful
C. Not Very Helpful
D. I needed a textbook

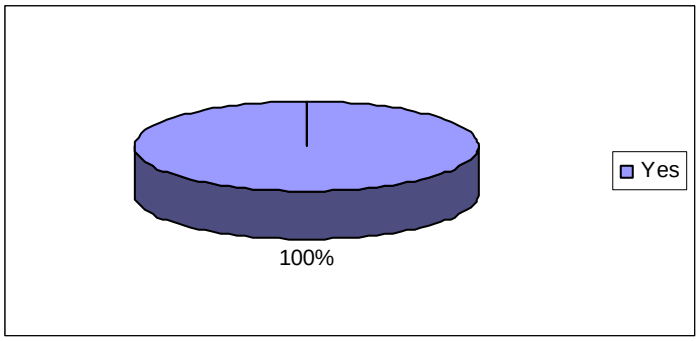


8. In what way could the Honors Biology PowerPoint chapter presentations be made more helpful?

- have all vocab word defined and in presentation
- One way it could be improved would be if the links worked at home. The presentations also allow students to be very passive which makes it difficult to focus
- Go slower and be easier to understand
- If the worksheets actually followed the presentations, it would have been better
- The vocab words were just mentioned in the presentations, no explanations or what they were
- More notes for studying
- Less movies
- More paper notes to go along with PowerPoint
- More pictures
- None
- No suggestions – Good Job Mr. Palatiere!!!
- I thought they were extremely helpful – maybe more links
- Go along with the book
- They were helpful, but could have included more detail
- Maybe if they had some more interactive features (puzzles, videos, etc.) it could help make the presentations more interesting
- I can't think of anything, they are useful just the way they are

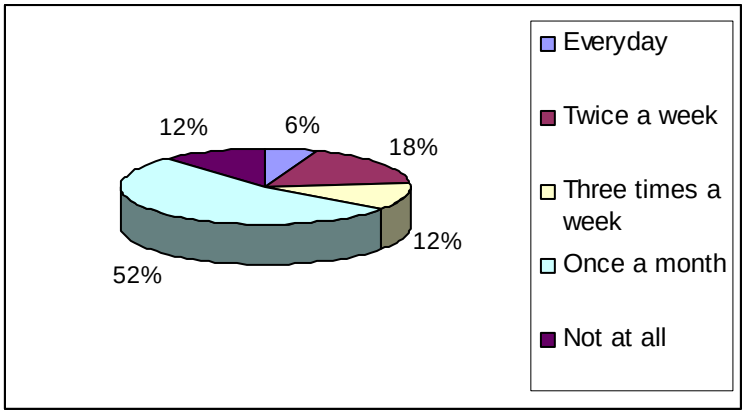
9. Do you have access to the Internet at home?

A. Yes
B. No



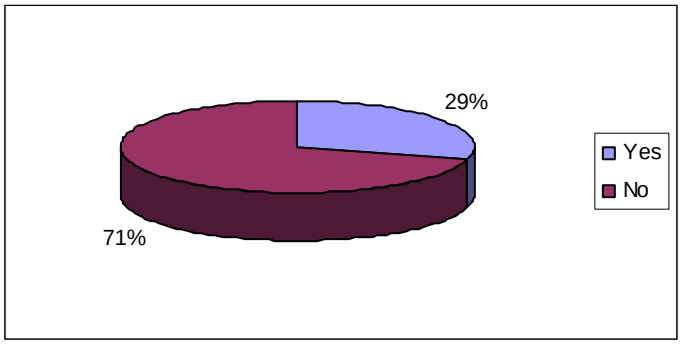
10. If yes to Question 9, how often did you use your notebook computer to access the Internet at home?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



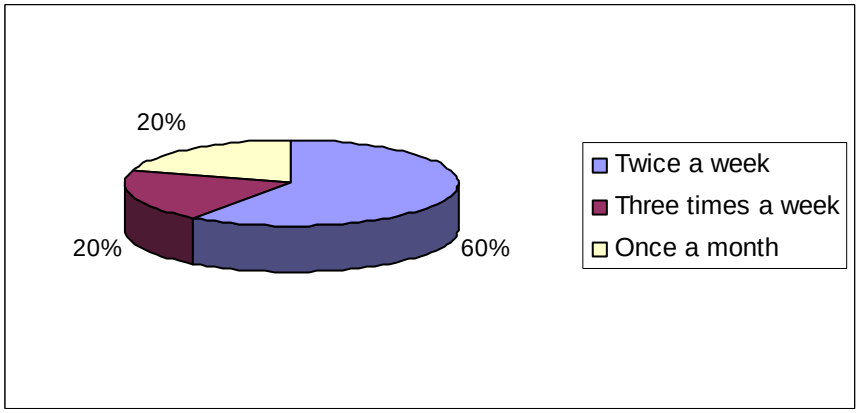
11. Did you use your notebook computer to access the Internet at home to submit Honors Biology homework assignments?

A. Yes
B. No



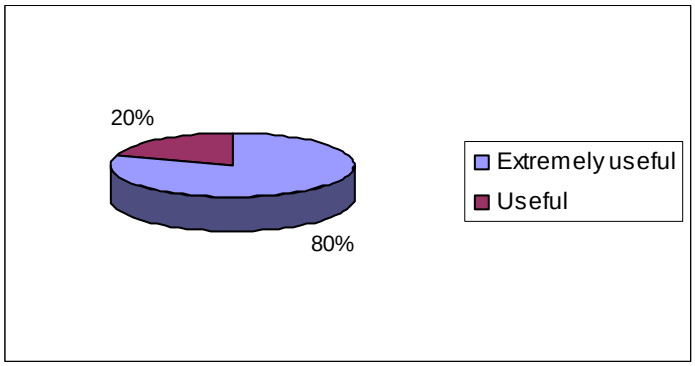
12. If yes to Question 11, how often did you use your notebook computer to access the Internet at home to submit Honors Biology homework assignments?

A. Everyday
B. Twice a week
C. Three times a week
D. Once a month



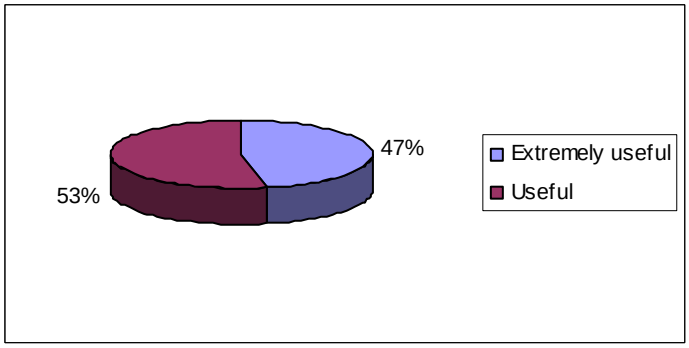
13. If yes to Question 11, how useful were the returned emailed answer sheet?

A. Extremely useful
B. Useful
C. Slightly useful
D. Seldom useful



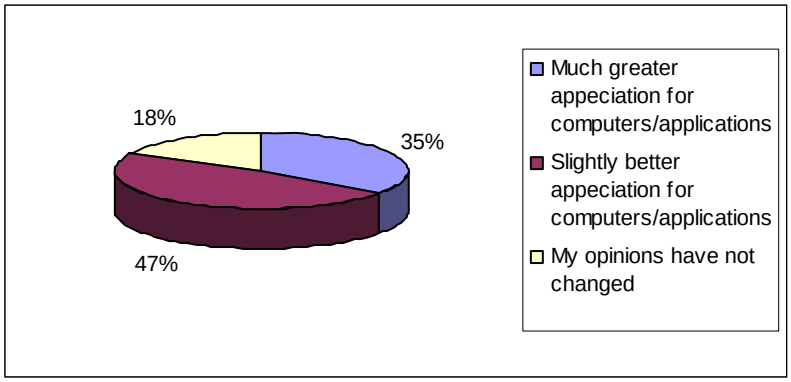
14. Do you feel your notebook computer was a useful tool this year?

A. Extremely useful
B. Useful
C. Slightly useful
D. Seldom useful



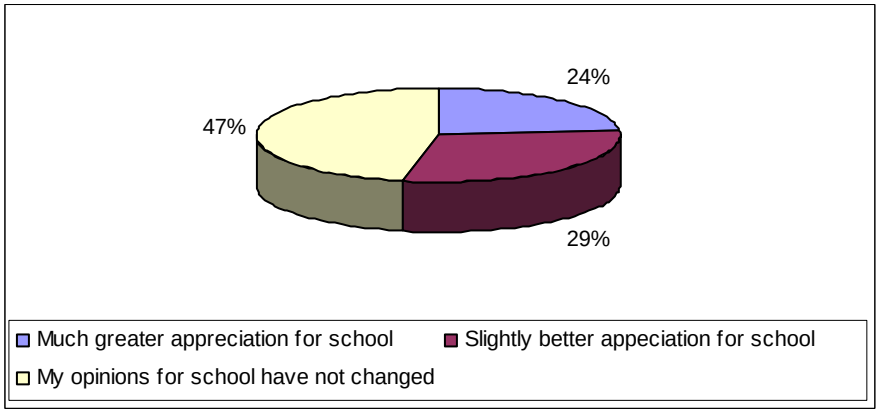
15. Has your attitude toward computer use changed because of your participation ing the Pilot Notebook Program?

A. Much greater appreciation for computers and their applications
B. Slightly better appreciation for computer use/applications
C. My opinions have not changed
D. I have less appreciation for computer use



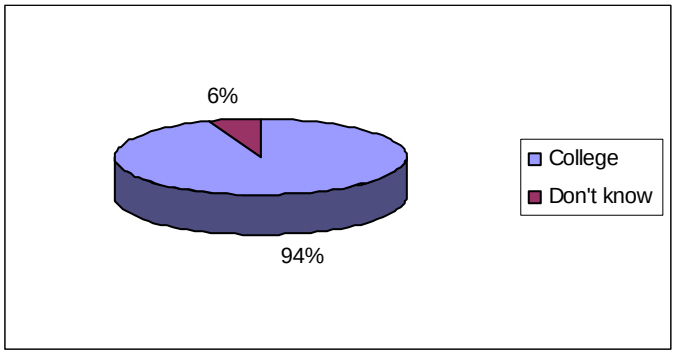
16. Has your attitude toward school changed because of your participation in the Pilot Notebook Program?

A. Much greater appreciation for school
B. Slightly better appreciation for school
C. My opinions for school have not changed
D. I have less appreciation for school



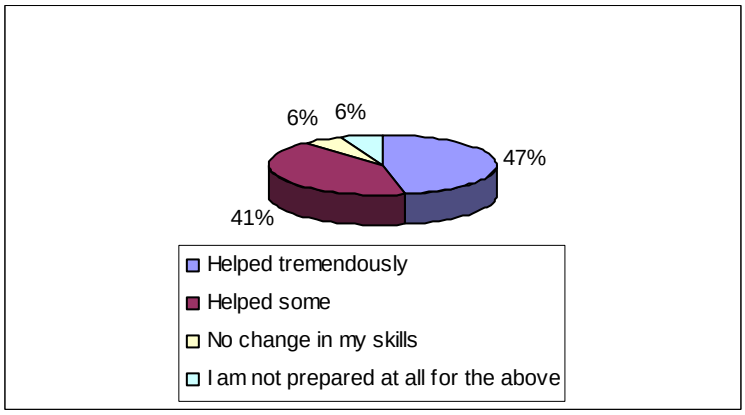
17. What are your plans after high school?

A. College
B. Trade school or other training
C. Job/Work/Military
D. Don't know



18. How much do you think having your notebook computer this year helped you in preparing for the above?

A. Helped tremendously
B. Helped some
C. No change in my skills
D. I am not prepared at all for the above



19. What skills do you think you learned that will be the most helpful in your plans after high school?

- using PowerPoint on notes and projects
- how to attach things to emails and retrieving things from an online folder
- I learned and slightly improved upon basic computer skills
- using presentations to learn/teach
- computer stuff
- how to use PowerPoint
- search the web for information
- PowerPoint, networking, computers in general
- organization, responsibility, efficiency
- how to move throughout a computer
- with my laptop, I learned how to take notes more efficiently. I gained typing speed and also learned how to do different things in computer programs
- computers are used in so many things, especially research in college. I learned how to overcome the common errors that occur with a computer and how to access information. I also learned how to form it into a presentation.
- study skills with a computer
- I learned how to rely on my computer for notes and to turn in assignments via email
- the use of certain programs for class homework and presentations was very useful to learn
- I have learned a lot from the Pilot Notebook Program. I think some of the most useful things I have learned involve PowerPoint presentation application, submitting homework (anything) electronically, and basic care and use of a laptop.
- creating PowerPoint presentations
- learning more about how computers work

20. Do you have any recommendations about the Pilot Notebook Program?
- suggestions to improve the program?
- what to do and what not to do next year?
- how could we better address your needs?

- I thought the program was good as it is
- start the program earlier to help not waste time getting adjusted
- PowerPoint presentations should be broken down into shorter presentations
- assignments like review sheets, x-words and things like that should be assigned more often before quizzes and tests to make sure student is learning and understanding information
- bigger bags to fit class books/binders
- more classes should use laptop to make it more effective
- I think you people should've tried this program on an academic class for a comparison, at the same time, on the same subject. I don't think it will work on non-honors students

- it was a good class. Sometimes there was too much information
- use it in more classes
- distribute more laptops to incorporate in other classes
- use in more classes
- my suggestion would be to find a way to lighten the load we were forced to carry around. The majority of us with laptops had to carry a laptop as well as other binders and books to class – this created a much heavier load. If there was a way to keep laptops in the room or load information for all classes, that would be beneficial!
- if the textbook could be access through the computer, it would make life much easier
- notes going along with books
- give laptops out again
- maybe you should have stronger batteries
- I was very pleased with the program, but I feel that there could be some improvements. I like the idea of the program, but I feel that it would be more useful if implemented in more classes, other than just Biology. Some days it seemed like a hassle lugging around the laptop. However, I have gained a lot of experience and knowledge from the program, and feel that it was a success!
- Try it on a larger scale, get more students involved. That way, when you are ready to issue them to the entire school, you are ready for more things that could go wrong on a larger scale.

Membership of Technology Review Team, 2002

Chair

- Beverly H. Cook, Assistant Superintendent of Instructional Services

Administration

- Beverly H. Cook, Assistant Superintendent of Instructional Services
- Paul Riding, Director of Technology

Lakeview Elementary School

- Frank Freudig, Principal
- Debra Mayes, Teacher

North Elementary School

- Tammy Fryar, Teacher
- Lisa Kohan, Teacher
- Stephanie Walker, Library Media Specialist

Tussing Elementary School

- Elizabeth Luck, Teacher
- Janice Whipple, Teacher
- Claire Goulder

Colonial Heights Middle School

- Brian Campos, Teacher
- Marie Ascenza, Teacher
- Karen Scott, Teacher
- Betty Horne, Teacher

Colonial Heights High School

- Ada Liles, Teacher
- Harry Palatiere, Teacher
- John Keeler, Assistant Principal
- Dianna Gustinis, Technology Paraprofessional

School Board

- Karl W. Christman

Community Representatives

- Karen Saunders, Web Administrator, City of Colonial Heights