

Educational Technology Plan for Lancaster County Public Schools 2007-2012

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2330 Irvington Rd.
PO Box 2000
Kilmarnock, Virginia 22482

804.435.3183
804.435.3309 (fax)

Susan Sciabbarrasi
Superintendent

Kevin Bean
Technology Director

Educational Technology Plan for
Lancaster County Public Schools
2007-2012

This Technology Plan has been reviewed and approved by

Kevin Bean
Lancaster County Public Schools Technology Director

This Technology Plan has been reviewed and approved by

Susan Sciabbarrasi
Lancaster County Public Schools Superintendent

This Technology Plan has been reviewed and approved by

Patrick McCranie
Chair, Lancaster County School Board

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LANCASTER COUNTY PUBLIC SCHOOLS
2007-2012 TECHNOLOGY PLAN

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Original Plan Committee

Merle Stables

LCPS Assistant Superintendent/Curriculum Representative

Susan Salg

LCPS Finance Director

Vesty Shirk

Technology Coordinator

Ed Blake

Instructional Technology Resource Teacher (ITRT)

Craig Kauffman

LCPS Principal Representative/ LMS Principal

Harriet Crowther

LCPS Media Specialist Representative/LHS Media Specialist

Tim Winstanley

LHS Teacher Representative

John Kazimer

LMS Teacher Representative

Anna Kellum

LPS Teacher Representative- Alternate

Chuck Swaim

Consultant, Eperitus

Plan Revision Committee

Sandy Herdle (Chair)

LPS Assistant Principal

Kevin Bean (Co-Chair)

SBO Technology Director

Dr. Ed Blake

SBO Data Analysis Coordinator/ITRT

Matt Brent

LHS Teacher

Harriet Crowther

LHS Media Specialist

John Kazimer

LMS Teacher

Robert Makulowich

LMS Teacher

Susan Smither

LPS Media Specialist

Renee Tadlock

LMS Media Specialist

Donna Wilkins

LHS Teacher

Introduction and Mission

“History reminds us that it is difficult at best to predict the future. Even so, schools must plan for the purposeful use of new and emerging technologies and the infrastructure, professional development, and resources to support them. No one can say which technologies will ultimately take root in education or how these applications will evolve, but it is important to consider the possibilities they offer. Carefully considering current trends is arguably the best way to identify and plan for future trends.”

-Virginia DOE Technology Plan

The Lancaster County Public Schools 2007-2012 Technology Plan outlines multi-year strategic goals and targets to implement and integrate the effective use of technology throughout the school division. This technology plan supports the following vision and mission of Lancaster County Public Schools:

“Recognizing the mutual responsibility of students, family, community, and school personnel, the Lancaster County Public School System will provide a caring environment and challenging educational programs in which all students can learn, grow, and become productive citizens and contributing members of society.”

The Lancaster County Public Schools 2007-2012 Technology Plan is aligned with the Virginia Department of Education Educational Technology Plan for 2003 - 2009. This technology plan meets the requirements of the Universal Services Telecommunications Act (E-Rate).

Preparing students for a world rich in technology, with the appropriate skills and knowledge, requires a comprehensive plan which addresses not only today’s needs but those of the future. Such a plan must include the effective use of classroom computers, digital peripheral devices, the Internet and web-based applications as well as the network infrastructure and personnel to support them.

The required investment in training and staff development continues to grow as Lancaster County Public Schools integrates these technologies into instruction and administration. The increase in Internet usage coupled with additional network traffic generated by the integration of these applications and resources requires higher powered computers, greater bandwidth, and sufficient security measures for classrooms and administrative offices.

Technology is no longer a “nice-to-have” tool for instruction and school administration; it has become a mission critical part of our business – educating the students of Lancaster County.

Plan Components

The five components of the Lancaster County Public Schools Technology Plan for 2007-2012 are as follows:

1. Technology Integration
2. Professional Development and Support Programs
3. Connectivity
4. Educational Applications
5. Accountability

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

Professional Development and Support Programs covers both pre-service and in-service training with a specific focus on the Virginia Technology Standards for instructional personnel.

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

Educational Applications relates to the instructional and administrative applications that will run over the infrastructure “highway” referenced in the Connectivity element.

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

Integration

Integration is consistently using technology appropriately and effectively to facilitate learning for all students. This element specifically addresses the equity of access, partnerships, and site-based collaborations between administrators, teachers, and students needed to integrate technology into common teaching practice.

Integration: Goals and Targets

Goal 1

Improve teaching and learning through the appropriate use of technology.

Targets

1. Administrators have a vision and plan for technology use and integration.
2. School leaders provide support for integration of technology into instruction.
3. Leaders can effectively evaluate instructional uses of educational technology.
4. Technology integration partnerships are established among educational technology stakeholders.
5. Teachers effectively integrate instructional technology.
6. Teachers collaborate to improve and enrich instruction using technology.
7. Teachers use technology-based intervention strategies to improve student achievement.
8. Teachers understand and model the acceptable use technology in teaching and learning.
9. Students routinely use technology in a variety of learning activities across the curriculum.
10. Students will have information literacy skills.
11. Student learning and achievement will be enhanced through the effective integration of technology.
12. Student learning and achievement will be enhanced through the use of advanced technologies.
13. Computer/Technology Standards of Learning (SOL) are fully integrated across all curriculum areas.
14. Instructional personnel meet Technology Standards for Instructional Personnel (TSIP).
15. Students meet Computer/Technology Standards of Learning (C/T SOL).

Goal 2

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

Targets

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

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #1: Administrators have a vision and plan for technology use and integration.			
Direct Benefit to Teaching and Learning	Teaching and learning are enhanced when administrators communicate a vision and a plan for technology use and integration.		
Reality	Some administrators do not have a clear vision or a plan for technology use and integration.		
Gap	<ul style="list-style-type: none"> • Technology leadership training for administrators needs to be provided to help administrators develop a plan for technology use and the integration of technology into instruction. • All administrators need to develop and communicate a vision and a plan for technology use and integration. 		
Progress Measures	<ul style="list-style-type: none"> • The number of administrators reporting that they have developed and communicated a plan for technology use and the integration of technology into instruction • The number of administrators who participate in training opportunities that assist them in developing a plan for technology use and the integration of technology into instruction. 		
Who	Actions	Target	Met?
Supt./Asst. Supt.	Disseminate district vision for technology use and integration.	2008	No
Principals	Develop a coordinated plan for technology use and integration.	2008	No
Principals	Implement the coordinated plan for technology use and integration.	2009	No

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #2: School leaders provide support for integration of technology into instruction.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Teaching and learning are enhanced when leaders are strong advocates for technology integration. 		
Reality	<ul style="list-style-type: none"> • School leaders are strong advocates for technology integration, but need more skills and direction to define expectations for technology integration. 		
Gap	<ul style="list-style-type: none"> • Technology leadership training needs to be provided to help leaders enhance their skills and knowledge of technology integration. • Leaders need to set expectations for appropriate integration of technology into instruction. 		
Progress Measures	<ul style="list-style-type: none"> • The number of leaders who participate in training opportunities designed to enhance their skills and knowledge of technology integration. • The number of leaders who have set expectations for appropriate integration of technology into instruction. 		
Who	Actions	Target	Met?
Assistant Superintendent and Technology Coordinator	Training opportunities will be provided for leaders to develop skills and knowledge for technology implementation.	2008	Partially
ITRT and Technology Coordinator	Create a building-specific list of resources available for use for technology integration.	2008	Nothing formal
Assistant Superintendent and Principals	Establish a minimum set of standards for technology integration.	2008	Yes
Principals	Implement a minimum set of standards for technology integration.	2009	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #3: Leaders can effectively evaluate instructional uses of educational technology			
Direct Benefit to Teaching and Learning	• Research indicates that learning is enhanced when technology tools are used appropriately and effectively.		
Reality	•Leaders lack an instrument to evaluate technology integration in classroom instruction.		
Gap	•Current teacher evaluation instrument does not address technology integration in the classroom.		
Progress Measures	• The number of leaders who have implemented the modified teacher evaluation instrument.		
Who	Actions	Target	Met?
Assistant Superintendent and Principals	Modify our current teacher evaluation instrument to include a technology integration component.	2008	Yes
Principals	Implement the modified teacher evaluation instrument.	2009	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #4: Teachers effectively integrate instructional technology			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Research indicates that learning is enhanced when technology tools are used appropriately and effectively. 		
Reality	<ul style="list-style-type: none"> • Many teachers do not integrate technology effectively. 		
Gap	<ul style="list-style-type: none"> • Lack of professional development • Lack of hardware and software • Lack of working equipment • Lack of monitoring of technology integration 		
Progress Measures	<ul style="list-style-type: none"> • The number of training events that focus on how to effectively integrate technology • The number of teachers who receive training in technology integration • analysis of technology inventories (hardware and software) • The number of teachers who have met their technology integration goal(s) 		
Who	Actions	Target	Met?
Principals	Survey faculty to determine professional development desires	Annually	Yes
Assistant Superintendent and Technology Coordinator	Prioritize/schedule professional development activities	Annually	Yes
Assistant Superintendent and ITRT	Create a series of professional development activities	Annually	Yes
Technology Coordinator and ITRT	Centralize and update technology inventory	Annually	Not in one database
Principals	Quantify the number of teachers who have met their technology integration goal (s)	Annually	No

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #5: Teachers collaborate to improve and enrich instruction using technology.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Instruction is improved when teachers, library media specialists, and technology specialists collaborate to develop instructional activities that optimize the use of a variety of resources. 		
Reality	<ul style="list-style-type: none"> • Many teachers do not use a collaborative approach to plan for and deliver effective, technology-rich instruction. 		
Gap	<ul style="list-style-type: none"> • Opportunities for collaboration need to be enhanced. 		
Progress Measures	<ul style="list-style-type: none"> • The number of lesson plans that reflect a collaborative approach to technology integration 		
Who	Actions	Target	Met?
Lead Teachers/ Team Leaders	Collaborate on technology integration	Ongoing	Partially
Teachers	Include technology integration in lesson planning	Ongoing	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #6: Teachers use technology-based intervention strategies to improve student achievement.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Improvements in student learning occur when technology is used as a tool for remediation and enrichment. 		
Reality	<ul style="list-style-type: none"> • Many teachers do not employ effective strategies and lack sufficient technology resources to address individual student needs. • Not all teachers use data to effectively modify instruction to meet student needs 		
Gap	<ul style="list-style-type: none"> • Teachers need assistance in identifying and utilizing technology-based strategies to enhance student achievement. 		
Progress Measures	<ul style="list-style-type: none"> • The number of teachers who use technology-based strategies to enhance student achievement. 		
Who	Actions	Target	Met?
Technology Coordinator and ITRT	Create a building-specific list of resources available for use for technology integration.	2008	Nothing formal
ITRT	Provides current information related to technology-based strategies that enhance student achievement. Document with strategies for resource	2008	Provided as requested
Principals	Require teachers to include technology-based strategies as part of goal setting to enhance student achievement.	Ongoing	No
Principals	Monitor usage of technology-based strategies.	Ongoing	No

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #7: Teachers understand and model the acceptable use of technology in teaching and learning.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Ethical use of technology resources is an expected practice for all uses of educational technology. • Evaluation and selection of Internet sites to identify resources appropriate for K-12 instruction. 		
Reality	<ul style="list-style-type: none"> • Not all teachers understand and model the acceptable use of technology in teaching and learning. • The current Acceptable Use Policy lacks clarity/specificity. 		
Gap	<ul style="list-style-type: none"> • School division needs to clarify the AUP through professional development for all staff. • Teachers need to apply the guidelines established in the school division's AUP in all teaching and learning activities. 		
Progress Measures	<ul style="list-style-type: none"> • The percentage of principals reporting that they have provided professional development to their building staff about the AUP. • The percentage of principals who have been provided with professional development and understand and model the AUP. • The number of staff members who appropriately apply and model the AUP. 		
Who	Actions	Target	Met?
Technology Coordinator	Clarify school division Acceptable Use Policy (AUP)	2007	VSBA policy
Technology Coordinator and Principals	Provide professional development concerning the Acceptable Use Policy	Annually	Yes
Principals	Measure the number of staff who have been trained on AUP information	Annually	Yes
Technology Coordinator	Measure the number of principals who have been trained on AUP information	Annually	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #8: Students will have information literacy skills.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Students will master information literacy skills (e.g., conduct research to locate, collect, organize, and evaluate information; electronically exchange information and collaborate with others external to the classroom) and become lifelong consumers of information. 		
Reality	<ul style="list-style-type: none"> • Some teachers are not incorporating information literacy skills into the curriculum. 		
Gap	<ul style="list-style-type: none"> • Training is needed to provide teachers with an understanding of and the ability to incorporate Information literacy skills 		
Progress Measures	<ul style="list-style-type: none"> • Scores on an assessment rubric designed to measure information literacy skills among students • The number of teachers trained in information literacy skills. 		
Who	Actions	Target	Met?
ITRT	Will provide information literacy skills training to teachers.	Annually in the fall	Yes
Teachers	Will increase the opportunities for students to master information literacy skills	2010	?

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #9: Student learning and achievement will be enhanced through the effective integration of technology.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Student achievement increases when students participate in technology-facilitated activities that involve peer collaboration, higher order thinking, and problem-solving skills. • Students will be better prepared to become members of tomorrow's workforce. 		
Reality	<ul style="list-style-type: none"> • Students are not routinely engaged in learning activities in which technology is effectively integrated. 		
Gap	<ul style="list-style-type: none"> • Teachers need to develop lesson plans that integrate technology into instruction • Models of lesson plans and activities that effectively integrate technology need to be shared and widely publicized. 		
Progress Measures	<ul style="list-style-type: none"> • The percentage of students routinely engaged in technology-facilitated learning activities. 		
Who	Actions	Target	Met?
ITRT	Provide professional development to teachers to integrate technology into instruction	Ongoing	Yes
Teachers	Will turn in lesson plans that demonstrate technology integration into instruction	Ongoing	Partially
Building Principals	Will monitor class instruction to ensure that technology is integrated into instruction	Ongoing	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #10: Student learning and achievement will be enhanced through the use of more types of advanced technologies than are currently available.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Students are motivated and engaged in learning activities that are relevant and applicable to real-world experiences. • Student learning resources are extended beyond the classroom. • Students will be better prepared to become members of tomorrow's workforce. 		
Reality	<ul style="list-style-type: none"> • Students do not routinely participate in learning activities that are enhanced by the use of advanced technologies. 		
Gap	<ul style="list-style-type: none"> • Students and teachers need ready access to advanced technologies. • Teachers need training in the use of advanced technologies. • Teachers need training in the development of technology-based lessons that incorporate the use of advanced technologies. 		
Progress Measures	<ul style="list-style-type: none"> • The variety of advanced technologies available to students and teachers. • The number of teachers who attend training in the use and curriculum integration of advanced technologies. • The number of training events that focus on the use and curriculum integration of advanced technologies. 		
Who	Actions	Target	Met?
Technology Coordinator	Provide a list of the types of advanced technologies available for use by teachers and students. ??????	Ongoing	No central database
Building Principals	Advocate for the purchase and use of advanced technologies.	2010	Yes
ITRT	Provide training for teachers in the use of advanced technologies.	Ongoing	Yes
Teachers	Provide training and opportunities for student use of advanced technology.	Ongoing	Partially

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #11: Computer/Technology Standards of Learning (SOL) are fully integrated across all curriculum areas.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Computer/Technology Standards of Learning are best mastered when students' use of technology is a routine part of their learning activities. 		
Reality	<ul style="list-style-type: none"> • Computer/Technology Standards of Learning are not fully integrated across all K-12 curriculum areas. 		
Gap	<ul style="list-style-type: none"> • School division and building technology plans should include a strategy for integrating the Computer/Technology Standards of Learning into teaching and learning. • Lesson plans need to indicate that Computer/Technology Standards of Learning are regularly integrated into content instruction and activities. • A component of the teacher evaluation instrument should indicate a level of technology integration. 		
Progress Measures	<ul style="list-style-type: none"> • The number of lesson plans showing that Computer/Technology Standards of Learning are being significantly integrated into all curricular areas. 		
Who	Actions	Target	Met?
Building Principal	Review/monitor classroom instruction to ensure that the technology standards of learning are incorporated into classroom instruction.	Ongoing	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #12: Meet Technology Standards for Instructional Personnel.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Teachers integrate technology into instruction when they are effective users of technology. • Student achievement is enhanced when teachers use technology effectively and integrate technology into instruction. 		
Reality	• Some teachers do not meet the Technology Standards for Instructional Personnel.		
Gap	• Teachers must meet the technology requirements in accordance with state law.		
Progress Measures	• The number of teachers who have met the technology requirements.		
Who	Actions	Target	Met?
ITRT	Implements the division technology standards program for instructional personnel (testing, remediation, and certification).	Ongoing	Yes

Topical Area: Integration			
Goal 1: Improve teaching and learning through the appropriate use of technology.			
Target #13: Students meet Computer/Technology Standards of Learning (C/T SOL).			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Students are proficient in the use of technology. • Students use technology tools to enhance learning, increase productivity, and promote creativity. • Students develop positive attitudes towards technology uses that support lifelong learning, collaboration, personal pursuits, and productivity. 		
Reality	<ul style="list-style-type: none"> • Some teachers are not fully implementing Computer/Technology Standards of Learning • Some students have not mastered the Computer/Technology Standards of Learning appropriate for their grade level. 		
Gap	<ul style="list-style-type: none"> • Teachers need to incorporate the Computer/Technology Standards of Learning into their teaching and learning activities. 		
Progress Measures	<ul style="list-style-type: none"> • The number of teachers incorporating the Computer/Technology Standards of Learning into teaching and learning activities. 		
Who	Actions	Target	Met?
Assistant Superintendent	Will disseminate the Computer/Technology Standards of Learning to all instructional personnel.	Ongoing	Available on VDOE website
Building Principal	Will monitor classroom instruction to ensure that instructional personnel are incorporating the Computer/Technology Standards of Learning into instruction.	Ongoing	Yes
Teachers	Will incorporate the Computer/Technology Standards of Learning into instruction.	Ongoing	?

Topical Area: Integration	
Goal 2: Improve statewide equity in the implementation of technology-enhanced teaching and learning.	
Target #1: Educators and students have access to technology to support instructional goals.	
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Research indicates that teaching is enhanced and learning is improved when teachers and students have ready access to a foundation level of technology and a variety of teaching/learning tools
Reality	<ul style="list-style-type: none"> • All classrooms are not currently equipped with a basic level of technology to facilitate teaching and learning. • We do not have adequate provisions for the timely updating, repair, and replacement of technology resources.
Gap	<ul style="list-style-type: none"> • Adequate and/or functional computers, software, and other technology resources need to be available to teachers and students to provide for a variety of instructional activities and teaching techniques.

Progress Measures	<ul style="list-style-type: none"> • The number of teachers who have an up-to-date multimedia computer and printer access for classroom instruction. • The number of classrooms that have large-screen (computer and multimedia, etc.) projection capability. • The number of schools reporting a computer-to-student ratio of one networked, multimedia computer for every five students. • The number of schools reporting they have an adequate/appropriate number of general use computers for specific curriculum areas and grade levels. • The number of schools reporting sufficient numbers of electronic teaching/learning devices such as classroom TV/VCRs (or central media distribution), digital cameras, digital scanners, video recorders, portable keyboarding devices, graphing calculators, computer projection devices, and scientific probes/sensors as computer interfaces • The number of schools reporting that plans are in place for the systematic upgrading and/or replacement of software and hardware
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Who	Actions	Target	Met?
Technology Coordinator	Develop and maintain an up-to-date list of technology assets, their location, and funding source(s).	Annually starting in 2007	Through site level inventory
Principals and Technology Coordinator	Maintain an up-to-date list of technology assets, their location, and funding source(s) to include the technology assets obtained by their school.	Annually starting in 2008	During the budget process
Technology Coordinator/Principals	Coordinate and maintain a plan for systematically upgrading technology assets for their individual schools and the school division.	Annually starting in 2008	Informal rotation of inventory funding

Topical Area: Integration			
Goal 2: Improve statewide equity in the implementation of technology-enhanced teaching and learning.			
Target #2: Appropriate technology-based instructional strategies are used for students with unique needs.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Student achievement is improved when assistive technology for special needs students and technology-based instructional alternatives for at-risk students are available. 		
Reality	<ul style="list-style-type: none"> • Lists of assistive devices for special needs and technology-based instructional alternatives for at-risk students are not readily available. • Technology-based strategies for providing general remediation are not currently available in all schools. 		
Gap	<ul style="list-style-type: none"> • A list of assistive technology for special needs students and technology-based resources for at-risk students and for remediation needs to be available in all schools to aid student learning. • Technology-based alternatives for remediation are not available to all students to supplement learning. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting that special needs students have access to assistive technologies when needed. • The number of schools reporting that at-risk students have access to technology-based instructional alternatives when needed. • The number of schools reporting that access to technology-based solutions for general remediation is available when needed. 		
Who	Actions	Target	Met?
Special Education Coordinator/Building Contacts	Creates and maintains a list of assistive technology available in each school and the school division.	Annually, starting in 2008	Partially, nothing formal
Assistant Superintendent/Principals	Create and maintain a list of technology-based resources available in each school and the school division for remediation of at-risk students.	Annually, starting in 2008	No

Professional Development and Support Programs

This element covers both pre-service and in-service training and professional development. It addresses the collaborative development of materials, courses, certification programs, and various staff development delivery models related to the effective integration of technology.

Professional Development and Support Programs Goals and Targets

Goal 1

Establish partnerships for identifying and delivering effective technology training to assist educators as they help students achieve high academic standards.

Targets

1. Educator training programs reflect pre-service coursework and experiences that include effective approaches to integrating technology into K-12 education.
2. A variety of classes, training, and resources pertaining to integrating technology effectively are available for staff development.
3. Technology-related staff development offered by various entities is provided in a variety of topics and delivery methods.
4. Technology leadership activities are provided to K-12 educational technology stakeholders.

Goal 2

Administer grant programs and financial assistance initiatives that support implementation of educational technology integration.

Targets

1. Grant programs and alternative sources of funding that support educational technology are administered.
2. Teacher education institutions, businesses, organizations, and private entities become partners in the implementation of technology-related grants focusing on technology integration.

Goal 3

Establish and maintain instructional technologists (including site-based technology resource teachers) in school divisions.

Targets

1. Site-based instructional technologists are available to all schools.
2. Staff development models and activities that are designed for site-based instructional technologists are available for all K-12 schools.

Topical Area: Professional Development and Support Programs			
Goal 1: Establish partnerships for identifying and delivering effective technology training to assist educators as they help students achieve high academic standards.			
Target #1: Educator training programs reflect pre-service course work and experiences that include effective approaches to integrating technology into K-12 education.			
Direct Benefit to Teaching and Learning	• Teachers are better prepared to appropriately and effectively use technology in teaching and learning.		
Reality	• Pre-service programs and experiences vary in the quality and depth of technology integration.		
Gap	• Professional development programs need more consistency with regard to experiences in integrating technology into K-12 education.		
Progress Measures	• The percentage of teachers who meet the division technology standards within their first year of employment.		
Who	Actions	Target	Met?
Assistant Superintendent	Identifies all teachers who do not currently meet technology standards.	Yearly	Yes
ITRT	Administers the school division Technology Certification Test to all teachers who are not currently technology certified.	Yearly	Yes
ITRT	Remediate all teachers who are not currently technology certified	Yearly	Yes
Assistant Superintendent	Evaluates previous coursework and disseminates additional coursework opportunities related to division technology certification.	Yearly	Yes

Topical Area: Professional Development and Support Programs			
Goal 1: Establish partnerships for identifying and delivering effective technology training to assist educators as they help students achieve high academic standards.			
Target #2: A variety of classes, training, and resources pertaining to integrating technology effectively are available for staff development.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Instruction improves when teachers use modern teaching tools and methods. All educators will have a better understanding of how technology can assist with student information and provide “decision support” benefits. 		
Reality	<ul style="list-style-type: none"> • Not all in-service classes and training materials reflect best practices for integrating technology into instruction. • Access to training opportunities for integrating technology and managing student data is not equitable for all K-12 teachers and administrators. 		
Gap	<ul style="list-style-type: none"> • Improvements are needed in the consistency and quality of technology training materials and classes and in division-wide equity in training opportunities. 		
Progress Measures	<ul style="list-style-type: none"> • Listing of the number of classes, training, and resources available to educators • The number of K-12 educators from each school who successfully complete educational technology courses and certification programs 		
Who	Actions	Target	Met?
Assistant Superintendent	Records successful completion of the number of classes and training completed by educators.	2008	Yes
ITRT	Identifies and makes available a list of classes, training, and resources available to educators.	2008	Not done by ITRT

Topical Area: Professional Development and Support Programs			
Goal 1: Establish partnerships for identifying and delivering effective technology training to assist educators as they help students achieve high academic standards.			
Target #3: Technology-related staff development offered by various entities is provided in a variety of topics and delivery methods.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Teachers stay current with modern technology teaching and learning tools and methods, and have a wide range of staff development opportunities that fit their learning styles and time preferences. 		
Reality	<ul style="list-style-type: none"> • Not all educators have equal access to high-quality technology training materials and staff development options based on best practices. • The school division does not have the funds to adequately support significant participation in state, regional, or national technology conferences and in-service activities. 		
Gap	<ul style="list-style-type: none"> • Improvements are needed to provide consistent quality in technology training materials and classes. 		
Progress Measures	<ul style="list-style-type: none"> • The number of technology-related staff development activities offered or supported <ul style="list-style-type: none"> . by and among school divisions . by professional organizations . by business and industry . by public broadcasting entities . by the Virginia Department of Education • The number of staff who participated in technology-related staff development activities 		
Who	Actions	Target	Met?
Principals	Survey staff on the quality and availability of technology-related staff development activities.	Annually	No
ITRT	Identifies and makes available a list of technology-related staff development activities.	Annually	Not done by ITRT
Assistant Superintendent and Principals	Maintain a current list of the number of staff who participated in technology-related staff development activities.	Annually	Yes

Topical Area: Professional Development and Support Programs			
Goal 1: Establish partnerships for identifying and delivering effective technology training to assist educators as they help students achieve high academic standards.			
Target #4: Technology leadership activities are provided to K-12 educational technology stakeholders.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Positive technology leadership fosters effective technology integration that results in improved student achievement. 		
Reality	<ul style="list-style-type: none"> • Division-wide technology leadership activities are not specifically provided for special populations such as school division administrative leaders, building-level principals, and technology resource teachers. 		
Gap	<ul style="list-style-type: none"> • There is a need for greater participation in technology professional development opportunities by K-12 instructional leaders. • Targeted technology leadership staff development is needed for school division leaders, building-level principals, and technology-related resource teachers. 		
Progress Measures	<ul style="list-style-type: none"> • The number of annual technology leadership activities (e.g., the Educational Technology Leadership Conference and leadership activities conducted for K-12 administrators, technology resource teachers, and coordinators/directors of instructional technology) • The number of K-12 instructional leaders participating in technology professional development activities 		
Who	Actions	Target	Met?
Superintendent	Supports and encourages technology leadership training activities.	Ongoing	Yes
Assistant Superintendent	Determines the number of K-12 instructional leaders participating in technology professional development activities.	Annually	Yes
Assistant Superintendent	Maintains a list of K-12 instructional leaders participating in technology professional development activities.	Annually	Yes

Topical Area: Professional Development and Support Programs

Goal 2: Administer grant programs and financial assistance initiatives that support implementation of educational technology integration.

Target #1: Grant programs and alternative sources of funding that support educational technology are administered.

Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Additional resources are available to help achieve a foundation level of technology resources for all school divisions.
Reality	<ul style="list-style-type: none"> • Not all school divisions have the resources and personnel to take advantage of available grant programs and alternative sources of funding. • A general listing of available grant opportunities and alternative sources of funding is not available.
Gap	<ul style="list-style-type: none"> • School divisions need technical assistance in grant writing as well as help in exploring and utilizing alternative sources of funding. • A general listing of available grant programs and alternative sources of funding is needed.
Progress Measures	<ul style="list-style-type: none"> • The number of school divisions that participate in grant programs and take advantage of alternative sources of funding • The number of grant opportunities and alternative sources of funding that are identified and publicized

Who	Actions	Target	Met?
Technology Coordinator	Identifies and disseminates grant opportunities to principals.	2007	Yes, to Asst. Supt.
Technology Coordinator	Monitors the administration of division-based grant funds and reports progress to the Superintendent.	Annually from 2008	Yes
Principals	Monitor the administration of school-based grant funds and report progress to the Superintendent.	Annually from 2008	Yes
Superintendent	Reviews the effectiveness of grant program.	Annually from 2008	Yes

Topical Area: Professional Development and Support Programs			
Goal 3: Establish and maintain instructional technologists (including site-based technology resource teachers) in school division.			
Target #1: Site-based instructional technologists are available to all schools.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • The degree of technology integration increases when on-demand instructional technology assistance is available. 		
Reality	<ul style="list-style-type: none"> • The school division does not have adequate financial and human resources to establish and maintain effective site-based technology integration support to all schools. • Varying levels of effectiveness and quality for technology integration exist within the school division. 		
Gap	<ul style="list-style-type: none"> • Guidelines and implementation models are needed to establish site-based instructional technologists in all schools. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools that have site-based instructional technologists available • The number of site-based technology support models that are identified and publicized 		
Who			
Actions			
Target			
Met?			
Principals	Survey staff to identify staff to be considered for site-based technology resource.	2007	Unofficially
Technology Committee	Creates a baseline for site-based instructional technologists.	2008	Yes
Superintendent	Approves the knowledge base for site-based instructional technologists.	2008	Yes
Technology Coordinator	Available for site-based instructional technologists.	2008	Yes

Connectivity

This component embraces concerns such as the development of school division electronic infrastructures, including data, voice, and video networks, and the supporting software and hardware that would allow all computer users to have equitable access educational resources.

Connectivity: Goals and Targets

Goal 1

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

Targets

1. Every instructional and administrative area in every school has a sufficient number of network connections to support the high bandwidth requirements of current and future instructional and administrative applications.
2. Each school division connects all school facilities through a wide area network with sufficient bandwidth to accommodate instructional and administrative needs.
3. Each school local area network has reliable high-speed access to the Internet capable of supporting instructional and administrative applications and initiatives.
4. An integrated suite of instructional and administrative applications supported by a standards-based enterprise architecture for K12 schools is in place.

Goal 2

Ensure sufficient support for ongoing, reliable network operations.

Targets

1. Adequate support personnel are in place to operate and support the K-12 school technology infrastructure.
2. Support personnel for K-12 school infrastructure have appropriate technical skills.
3. School systems have customer support systems in place to address technical problems in a timely and efficient manner.
4. School divisions plan for the total cost of ownership (TCO) associated with K-12 technology.

Goal 3

Provide leadership and resources to promote efficient procurement of infrastructure, including the identification and procurement of emerging technologies.

Targets

1. The K-12 school technology procurement process is efficient and cost effective.
2. School divisions are regularly informed about emerging technologies for instruction and administration.

Goal 4

Ensure that school divisions have in place network security, filtering, and disaster recovery plans.

Targets

1. Policies, procedures, and technologies are in place to ensure that computing resources are secure and recoverable.
2. School divisions maintain an up-to-date Acceptable Use Policy (AUP) and effectively use network filtering solutions.
3. School divisions have appropriate and effective network and data security policies and systems.

Topical Area: Connectivity	
Goal 1: Ensure that all public schools have access to integrated instructional and administrative services across interoperable high-speed networks.	
Target #1: Every instructional and administrative area in every school has a sufficient number of network connections to support the high bandwidth requirements of current and future instructional and administrative applications.	
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none">• Offices, labs, classrooms and media centers with appropriate access to resources on the local area network and Internet with sufficient bandwidth are technology-rich teaching, learning and working environments.
Reality	<ul style="list-style-type: none">• LCPS needs to increase the amount of bandwidth within the school division• LCPS needs to implement a wide area network (WAN).• Many classrooms have an insufficient number of network drops.
Gap	<ul style="list-style-type: none">• Schools need to connect every instructional and administrative area to a LAN.• Schools need to increase connectivity speed and bandwidth.• Many classrooms need at least two additional network drops (for 5:1 multimedia, networked computer connectivity).

Progress Measures	<ul style="list-style-type: none"> • The number of Principals reporting that every instructional and administrative area has sufficient connections to a local area network with adequate bandwidth to support current and future instructional and administrative applications • The number of Principals reporting that their school has a student-to-computer (networked multimedia and Internet-connected) ratio of 5:1
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Who	Actions	Target	Met?
School Division	Contract to build a scalable WAN connecting all schools and administrative buildings that provides for current and future needs.	2007	Yes
School Division	Contract to have <ul style="list-style-type: none"> • a minimum of 2 working network drops in each high school and middle school classroom • all labs with working network drops + 10% 	2008	In process of converting to wireless
School Division	Contract to have a minimum of 2 working network drops in each primary school classroom.	2009	Yes

Topical Area: Connectivity			
Goal 1: Ensure that all public schools have access to integrated instructional and administrative services across interoperable high-speed networks.			
Target #2: Each school division connects all school facilities through a wide area network with sufficient bandwidth to accommodate instructional and administrative needs.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> Schools with connections to educational resources through a wide area network with sufficient bandwidth are technology-rich teaching and learning environments. 		
Reality	<ul style="list-style-type: none"> Lancaster County School Division has an insufficient amount of bandwidth to provide a technology-rich teaching and learning environment. 		
Gap	<ul style="list-style-type: none"> All schools need to have sufficient wide area network connectivity to support access by an increased number of students, teachers, and administrators to administrative and instructional applications. 		
Progress Measures	<ul style="list-style-type: none"> The number of schools that have a connection to a wide area network that accommodates instructional and administrative applications 		
Who	Actions	Target	Met?
Technology Coordinator	Ensure that all schools and administrative buildings are connected to the WAN	2007	Yes

Topical Area: Connectivity			
Goal 1: Ensure that all public schools have access to integrated instructional and administrative services across interoperable high-speed networks.			
Target #3: Each school local area network has reliable high-speed access to the Internet capable of supporting instructional and administrative applications and initiatives.			
Direct Benefit to Teaching and Learning	A robust local area network infrastructure enables teachers, students, and administrators to readily access local, state, and worldwide educational resources		
Reality	<ul style="list-style-type: none"> • The LCPS network currently uses low-speed local area network technology. • LCPS needs to increase the number of network-based educational resources and applications 		
Gap	<ul style="list-style-type: none"> • All schools need to have sufficiently robust local area networks to support ready access to the Internet as well as network-based educational resources and applications. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting that they have reliable high-speed access to the Internet capable of supporting statewide network applications and providing access to worldwide educational resources 		
Who	Actions	Target	Met?
Technology Coordinator	Identify the number of schools needing high-speed Internet access	2007	Yes
Technology Coordinator	Identify the number of and cost for network based educational resources and applications currently in use	2008	Yes
ITRT	Establish a database of available network based educational resources and applications currently in use	2008	No
Principals	Identify additional network based educational resources and applications they would like to have.	2008	Yes
Technology Coordinator and ITRT	Establish a budget for the continuation and addition of new network based educational resources and applications	2008	At budget time

Topical Area: Connectivity			
Goal 1: Ensure that all public schools have access to integrated instructional and administrative services across interoperable high-speed networks.			
Target #4_: An integrated suite of instructional and administrative applications supported by a standards-based enterprise architecture for K-12 schools in place			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Universal access to worldwide educational information and resources enriches the teaching and learning environment. • Teachers and administrators can focus on instruction and spend less time on administrative tasks. • Teachers and administrators have ready access to information that supports instructional decision-making. 		
Reality	• LCPS has some technology assets which are nonstandard or proprietary.		
Gap	• All schools need to use technology that is standards-based and supportable.		
Progress Measures	• The number of schools that report use of standards-based technology for instruction and administration		
Who			
Actions		Target	Met?
ITRT	Create and maintain a list of web based and non-web based instructional applications currently available for teacher and administrator use.	2008	Upon request
Technology Coordinator	Create and maintain a list of non-instructional applications currently available for teacher and administrator use.	2008	Yes
Technology Coordinator	Ensure that all schools are using hardware technology that is standards-based and non-proprietary.	2007	Yes
Superintendent/ Technology Coordinator	Review and update as necessary all current network filtering solutions.	Annually	Yes
ITRT	Ensure that all schools are using software technology that is standards-based and non-proprietary.	2008	Yes

Topical Area: Connectivity			
Goal 2 Ensure sufficient support for ongoing, reliable network operations.			
Target #1_: Adequate support personnel are in place to operate and support the K12 school technology infrastructure.			
Direct Benefit to Teaching and Learning	Adequate support services promote the consistent and reliable operation of the K-12 school technology infrastructure.		
Reality	<ul style="list-style-type: none"> • LCPS has insufficient technology support staff for its approximately 2000 users. • LCPS has insufficient technology support staff for its approximately 800 hardware devices. 		
Gap	• K-12 technology personnel generally support four times the number of computers as their business counterparts. Additional support personnel are needed to correct this disparity.		
Progress Measures	<ul style="list-style-type: none"> • Establish a goal to add at least 1 more technology support technician to the school division. • Establish a goal to add an administrative technology support person to the technology department. 		
Who	Actions	Target	Met?
Technology Committee	Reassess staffing needs of the technology department after WAN is operational	2007	Done by Tech. Coordinator
School Division	Secure funding to ensure the addition of highly qualified technology support personnel as needed.	2008	Ongoing
Technology Coordinator	Budget for the addition of highly qualified technology support personnel as needed	2008	Ongoing

Topical Area: Connectivity			
Goal 2 Ensure sufficient support for ongoing, reliable network operations.			
Target #2: Support personnel for K-12 school technology infrastructure have appropriate technical skills.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Appropriately skilled support personnel will be able to maintain a technology infrastructure that responds to complex connectivity and usage demands. 		
Reality	<ul style="list-style-type: none"> • Technical support personnel may not have appropriate skills to support the K-12 school technology infrastructure. 		
Gap	<ul style="list-style-type: none"> • All technical support personnel need to have the skills necessary to support the K-12 school technology infrastructure. 		
Progress Measures	<ul style="list-style-type: none"> • The number of principals reporting that support personnel for their technology infrastructure are appropriately skilled to meet the demands of the position. 		
Who	Actions	Target	Met?
Technology Coordinator & Assistant Superintendent	Create job descriptions identifying necessary job skills and educational requirements	2007	Yes, by Asst. Supt.
Superintendent & Finance Director	Target appropriate funding per technical support employee for additional training in division's technology budgets	2008	Done by Tech. Coordinator
Superintendent & Finance Director	Provide resources and support for division technology support personnel to obtain industry standard certifications.	2008	Yes

Topical Area: Connectivity			
Goal 2 Ensure sufficient support for ongoing, reliable network operations.			
Target #3: School divisions plan for the total cost of ownership (TCO) associated with K-12 technology.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Technology investments are fully supported and utilized when the total costs of ownership and operation are understood. 		
Reality	<ul style="list-style-type: none"> • The total cost of ownership for LCPS K-12 technology infrastructure is not fully understood by all stakeholders. 		
Gap	<ul style="list-style-type: none"> • Identify, understand, communicate and incorporate at all levels of planning the total cost of ownership for LCPS K-12 technology infrastructure to all stakeholders. 		
Progress Measures	<ul style="list-style-type: none"> • Actively monitor and report to stakeholders on a regular basis the costs of hardware, software, operations, administration, end-user operations and downtime. 		
Who	Actions	Target	Met?
Technology Coordinator	Develop a budget that includes costs of hardware, software, operations, administration, end-user operations and downtime.	Annually	Yes
Technology Coordinator	Submit an annual report based on the above progress measures to Stakeholders as defined by the Superintendent and/or School Board (i.e. budget revision).	2007	No
Technology Coordinator	Submit a semi-annual report based on the above progress measures to Stakeholders as defined by the Superintendent and/or School Board.	2008	No

Topical Area: Connectivity			
Goal 3 Provide leadership and resources to promote efficient procurement of infrastructure, including the identification and procurement of emerging technologies.			
Target #1: The K-12 school technology procurement process is efficient and cost effective.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Efficient and cost effective technology procurement can result in significant cost savings for LCPS. 		
Reality	<ul style="list-style-type: none"> • A limited number of resources exist to assist in the acquisition of K-12 technology. 		
Gap	<ul style="list-style-type: none"> • Develop procurement standards and resources customized for K-12 education needs. 		
Progress Measures	<ul style="list-style-type: none"> • The number of resources (i.e., templates and guidelines) that schools may use in the technology procurement process that have been identified or developed and publicized. 		
Who	Actions	Target	Met?
Technology Coordinator & Finance	Develop templates and guidelines for technology procurement.	2008	Yes
Technology Coordinator & ITRT	Establish guidelines and specifications for hardware and software purchases.	2008	Done by Tech. Coordinator

Topical Area: Connectivity			
Goal 3 Provide leadership and resources to promote efficient procurement of infrastructure, including the identification and procurement of emerging technologies.			
Target #2: School divisions are regularly informed about emerging technologies for instruction and administration.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Education technology stakeholders need timely information to make critical decisions about using emerging technologies for teaching and learning. 		
Reality	<ul style="list-style-type: none"> • Division personnel do not have adequate time to research or be exposed to emerging technologies which may be of benefit to students and staff. 		
Gap	<ul style="list-style-type: none"> • Current information about educational technologies needs to be carefully researched and publicized to K-12 stakeholders. 		
Progress Measures	<ul style="list-style-type: none"> • The number of activities conducted for educational technology stakeholders that explain and explore emerging technologies for instruction and administration • The number of pilot studies in K-12 schools using emerging technologies • The percentage of surveyed educational technology stakeholders that indicate awareness and/or understanding of emerging technologies for instruction and administration. 		
Who	Actions	Target	Met?
Technology Coordinator, ITRT, 1 teacher, 1 Principal	Attend the annual Virginia Technology Leadership Conference (needs to be justified)	Annually	No
Technology Coordinator and ITRT	Solicit vendor demonstrations and training for new products.	2008	Yes
ITRT and Assistant Superintendent	Provide “workshop” setting training sessions for teachers and staff.	2008	Yes

Topical Area: Connectivity			
Goal 4 Ensure that school divisions have in place network security, filtering and disaster recovery plans.			
Target #1: Policies, procedures and technologies are in place to ensure that computing resources are secure and recoverable.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • K-12 technology resources are protected from unauthorized use or misuse and the loss of data due to catastrophe or hardware/software failure. 		
Reality	<ul style="list-style-type: none"> • LCPS has insufficient technology resources security. • LCPS lacks a technology recovery plan. 		
Gap	<ul style="list-style-type: none"> • LCPS needs to establish a system to constantly upgrade their security and data backup procedures for technology resources in the face of constantly changing threats to valuable technology resources and data integrity. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting they have conducted a formal risk assessment. • The number of schools reporting they have assessed risk and threats to their school's computing resources • The implementation of security technologies such as as firewall and virus protection software • The implementation of a Division disaster recovery plans for technology resources. 		
Who	Actions	Target	Met?
Principals (Back-up security)	Compile a list of risk concerns.	2008	Partially through email updates
Technology Committee	Recommends a risk assessment by an outside source.	2008	Yes, done by Sycom

Topical Area: Connectivity			
Goal 4 Ensure that school divisions have in place network security, filtering and disaster recovery plans.			
Target #2: School Divisions have appropriate and effective network and data security policies and systems			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Access to confidential student, staff, and vital administrative data supports instructional decisions and design. 		
Reality	<ul style="list-style-type: none"> • Lancaster County Public School Division does not have a well-defined security policy for computer and network equipment. 		
Gap	<ul style="list-style-type: none"> • The school division needs to invest time and expertise into the development of a well-conceived, comprehensive, and customized security policy. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting that they have a policy that effectively secures sensitive information, critical systems, and computer equipment and software. 		
Who	Actions	Target	Met?
Superintendent/ Technology Coordinator	Establish a written Division security plan which includes network security, data security and content and email filtering.	2008	Nothing in writing
Superintendent/ Technology Coordinator	Establish a written Division security plan which addresses network security, filtering and disaster recovery plan.	2008	No

Educational Applications

This element includes issues that relate to the instructional and administrative educational applications that will make use of the infrastructure “highway,” which is referenced in the “Connectivity” section.

Educational Applications: Goals and Targets

Goal 1

Improve teaching and learning through the appropriate use of network-accessible educational applications.

Targets

1. Teaching and learning resources that effectively support the Virginia Standards of Learning (SOL) have been identified, communicated, and developed.

Goal 2

Promote and develop Web-based applications, services, and resources.

Targets

1. All schools are participating successfully in the Virginia Web-based SOL Technology Initiative.
2. School divisions use Web-based applications for state data collection, warehousing, and reporting.
3. Use of a common set of data definitions allows standard communication and interpretation of student information.
4. Every school has an efficient, automated library media center connected to the Internet and networked to appropriate learning areas.
5. School divisions have strategies for providing community access to school-based technology and applications.

Goal 3

Offer digital learning opportunities at state and local levels.

Targets

1. Web-based courses and staff development activities are provided.
2. Schools are able to receive digital television broadcast signals and effectively utilize the enhanced capabilities.

Topical Area: Educational Applications			
Goal 2: Promote and develop 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 and Learning	<ul style="list-style-type: none"> • All schools have a robust infrastructure capable of supporting Internet-based applications for instruction, remediation, and testing. 		
Reality	<ul style="list-style-type: none"> • All schools within the Lancaster County School Division meet all Readiness Certification requirements. • Lancaster County Public Schools participate in the Virginia Web-based SOL Technology Initiative. 		
Gap	<ul style="list-style-type: none"> • LCPS does not have the necessary network topology to fully support Internet-based instructional activities and online testing. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools where the network infrastructure is in place to support applications of the Virginia Web-based SOL Technology Initiative • The number of principals reporting successful operation of Web-based SOL online testing applications. 		
Who	Actions	Target	Met?
Technology Coordinator and Superintendent	Initiate the process to upgrade to a scalable Wide Area Network (WAN).	2007	Yes
Technology Coordinator and Superintendent	Secure appropriate funding to implement the upgrade to a scalable Wide Area Network (WAN).	2007	Yes
Technology Coordinator and Principals	Determine the number of computers which have access to Web-based SOL online testing applications.	2008	Yes
Technology Committee	Prioritize a list of applications for online migration (SASI, Power School, Follett Destiny, student fees and lunch systems, transportation, etc.)	2008	Partially

Topical Area: Educational Applications			
Goal 2: Promote and develop Web-based applications, services, and resources.			
Target #2: School divisions use Web-based applications for state data collection, warehousing, and reporting.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Efficient services are supplied to school divisions to simplify and/or reduce reporting requirements. 		
Reality	<ul style="list-style-type: none"> • Information is not readily available to school divisions and other appropriate stakeholders. 		
Gap	<ul style="list-style-type: none"> • Data warehousing capability and data collection systems need to be developed to provide efficient services to educational stakeholders. 		
Progress Measures	<ul style="list-style-type: none"> • The number of Web-based information resources, data collection, warehousing, and reporting systems available to school systems 		
Who	Actions	Target	Met?
Technology Coordinator and Student Information Specialist	Implement the most efficient solution for web-based information resources, data collection, warehousing, and reporting systems available to school systems if funding is available.	2008	Yes

Topical Area: Educational Applications			
Goal 2: Promote and develop Web-based applications, services, and resources.			
Target #3: Use of a common set of data definitions allows standard communication and interpretation of student information			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • DOE and school divisions are able to send and receive data reports using common protocols. • Information is available and accessible for planning and instruction. 		
Reality	<ul style="list-style-type: none"> • Information cannot always be transmitted electronically in a standard communication format using commonly defined terms. 		
Gap	<ul style="list-style-type: none"> • Standard student information data definitions need to be adopted. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting that they can communicate with state-operated data collection and data warehouse applications pertaining to transmitting and referencing student information • The number of state-operated Web-based applications that have a common set of data definitions for communicating with school divisions 		
Who	Actions	Target	Met?
Technology Coordinator and Student Information Specialist	Determine the number of schools reporting that they can communicate with state-operated data collection and data warehouse applications pertaining to transmitting and referencing student information	2009	Yes
Technology Coordinator and Student Information Specialist	Determine the number of state-operated Web-based applications that have a common set of data definitions for communicating with school divisions	2009	Yes

Topical Area: Educational Applications			
Goal 2: Promote and develop Web-based applications, services, and resources.			
Target #4: Every school has an efficient, automated library media center connected to the Internet and networked to appropriate learning areas.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Students and teachers will have online access to carefully selected resources through the library media center. 		
Reality	<ul style="list-style-type: none"> • Lancaster County schools have up-to-date library media centers with access to carefully selected electronic resources. 		
Gap	<ul style="list-style-type: none"> • School library media centers need to be updated to include connectivity to all learning areas in the school. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting an up-to-date library media center with the following characteristics: automated card catalog, automated circulation system, and access to an electronic reference system and the Internet. • The number of schools reporting that their library media centers are networked to all appropriate learning areas and the Internet. 		
Who	Actions	Target	Met?
Technology Coordinator	Determine the number of schools reporting an up-to-date library media center with the following characteristics: automated card catalog, automated circulation system, and access to an electronic reference system and the Internet.	2008	Yes
Principals	Determine the status of library media centers that are networked to all appropriate learning areas and the Internet.	2008	Yes

Topical Area: Educational Applications			
Goal 2: Promote and develop Web-based applications, services, and resources.			
Target #5 School divisions have strategies for providing community access to school-based technology and applications.			
Direct Benefit to Teaching and Learning		• Enhances parent and community involvement in teaching and learning.	
Reality		• LCPS provides a limited amount of technology resource to the Lancaster community.	
Gap		• Schools need to develop strategies to increase ongoing parent and community involvement through access to school-based technology resources.	
Progress Measures		• The number of schools reporting they have strategies for increasing the availability of school-based technology to parents and students	
Who	Actions	Target	Met?
ITRT or Technology Coordinator	Create parent resource links to SOL released test items and a list of resources for parents.	2010-2011	No

Topical Area: Educational Applications			
Goal 3: Offer digital learning opportunities at state and local levels.			
Target #1: Web-based course and staff development activities are provided.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Educational technology stakeholders have equitable access to courseware and staff development. 		
Reality	<ul style="list-style-type: none"> • A wide inconsistency exists regarding statewide student and educator access to courseware and staff development. 		
Gap	<ul style="list-style-type: none"> • Student courses and staff development need to be designed for distributed/distance learning. Up-to-date distributed/distance learning technologies are needed for the delivery of student courses and staff development. 		
Progress Measures	<ul style="list-style-type: none"> • The variety of K-12 staff development activities delivered via satellite, Web-based digital content, public television, and two-way interactive video using state and educational technology stakeholder facilities • The quality and availability of staff development activities using distributed/distance learning technologies as determined by peer assessment 		
Who	Actions	Target	Met?
ITRT and Assistant Superintendent	Determine opportunities for securing a variety of K-12 staff development activities delivered via satellite, Web-based digital content, public television, and two-way interactive video using state and educational technology stakeholder facilities (RCC and VDOE).	2008	No
Staff	Evaluate the quality and availability of technology staff development activities.	2009	No

Topical Area: Educational Applications			
Goal 3: Offer digital learning opportunities at state and local levels.			
Target #2: Schools are able to receive digital television broadcast signals and effectively utilize the enhanced capabilities.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Schools can receive a wider variety of programming formats and resources. 		
Reality	<ul style="list-style-type: none"> • Most LCPS classrooms receive digital television broadcast signals and effectively utilize the enhanced capabilities. 		
Gap	<ul style="list-style-type: none"> • All classrooms need the capability to receive broadcast resources in digital format. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting that they can receive a digital public television broadcast signal in all appropriate learning areas • The number and variety of informational and programming services available to K-12 schools 		
Who	Actions	Target	Met?
Principals, Director of Operations and Transportation, and Technology Coordinator	Report the number of classrooms that can receive a digital public television broadcast signal in all appropriate learning areas (i.e. cable)	2008	Ongoing
ITRT	Create a list of the number and variety of informational and programming services available to K-12 schools and put on website.	2008	Yes

Accountability

This element addresses the value of technology to teaching and learning environments, and K-12 student data management and decision support. It also includes the assessment of technology literacy among students, instructional personnel, and support staff.

Accountability: Goals and Targets

Goal 1

- Assess the value that information technology (IT) 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

- 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 (IT) 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 local technology plans are consistent with the state technology plan.

Targets

1. School divisions will have technology plans that are consistent with the components of the state technology plan. All schools will have technology plans that are consistent with the components of their division technology plan.
2. All schools and school divisions will evaluate annually the progress and effectiveness of their technology plans.

Topical Area: Accountability			
Goal 1: Assess the value that information technology (IT) adds to teaching and learning environments.			
Target #1: Readiness to integrate technology into teaching and learning has been assessed for each school.			
Direct Benefit to Teaching and Learning	• All K-12 schools will be ready for technology integration.		
Reality	• Schools are in various stages of determining their readiness to integrate technology into teaching and learning.		
Gap	• The school division needs to create and execute a Readiness to Integrate Technology assessment.		
Progress Measures	• The number of schools that have executed the readiness to integrate technology into teaching and learning (i.e., have created school-site technology readiness profiles)		
Who	Actions	Target	Met?
ITRT	Create a Readiness to Integrate Technology assessment document.	2008	Yes
ITRT	Administer a Readiness to Integrate Technology assessment.	2009	Yes
ITRT	Re-evaluate new teacher assessment tool every 2-3 years.	Ongoing	Yes

Topical Area: Accountability			
Goal 1: Assess the value that information technology (IT) adds to teaching and learning environments.			
Target #2: Instructional technology integration has been assessed in schools and classrooms.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • School divisions will be able to recognize whether technology is enhancing or changing teaching and learning. 		
Reality	<ul style="list-style-type: none"> • The division lacks guidelines for teachers and administrators to assess the level of technology integration implementation. 		
Gap	<ul style="list-style-type: none"> • Guidelines or models for assessing the level of technology integration implementation need to be developed and shared. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools that have been assessed to determine the level of technology integration implementation • The number of classrooms that have been assessed to determine the level of technology integration implementation 		
Who	Actions	Target	Met?
Principals	Report the level of technology integration in their building to the designated supervisor (e.g. lesson plans, observation, etc.).	Annually beginning in 2008	No
Teachers	Report the level of technology integration in their classroom to their principal.	Annually beginning in 2008	No

Topical Area: Accountability			
Goal 1: Assess the value that information technology (IT) adds to teaching and learning environments.			
Target #3: Technology-rich environments and effective technology-based instructional strategies support student learning.			
Direct Benefit to Teaching and Learning		• There is a measurable increase in students' academic achievement.	
Reality		• Additional information is needed to show how technology can be used to increase student academic achievement.	
Gap		• More information is needed to identify best practices related to technology's role in improving student performance.	
Progress Measures		None	
Who	Actions	Target	Met?
ITRT and Assistant Superintendent	Obtain information to identify best practices related to technology's role in improving student performance.	2008	No

Topical Area: Accountability			
Goal 2: Provide appropriate decision support capabilities for all stakeholders.			
Target #1: Information systems provide comprehensive information about student learning progress.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> Information Technology can provide the necessary information for educational stakeholders to make critical and timely decisions about the learning progress. 		
Reality	<ul style="list-style-type: none"> Information Technology software that provides information about the learning and achievement of a student is not being used to its maximum potential. 		
Gap	<ul style="list-style-type: none"> In-service training needs to be developed to help school division personnel use appropriate software to interpret student data in making decisions about learning progress. 		
Progress Measures	<ul style="list-style-type: none"> The number of schools reporting that Information Technology provides timely and in-depth information about the learning progress of students to educational stakeholders 		
Who	Actions	Target	Met?
Student Information Coordinator	Examine the current data-based management information system to determine if the school division needs can be met.	2008	Yes
Student Information Coordinator	Develop a list of current data-based management information systems (e.g., Sasi/Xp, Instant Alert, Power School, IEP Online, EIMS, etc.) including a level of access by personnel.	2008	Yes
Superintendent, Technology Coordinator, Student Information Coordinator, and other Administrators	Review the list of current data-based management information systems and determine if additional training and accessibility is required.	2008	Yes

Topical Area: Accountability			
Goal 2: Provide appropriate decision support capabilities for all stakeholders.			
Target #2: Information systems interface to provide staff members the ability to use appropriate and effective data to make decisions.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Schools should maximize the use of Information Technology systems and have confidence in them to support management and provide decision-support. 		
Reality	<ul style="list-style-type: none"> • Information Technology is not fully utilized by schools to assist educators through decision support. 		
Gap	<ul style="list-style-type: none"> • There is a need for training on how to utilize the decision-support value of information technology systems. 		
Progress Measures	<ul style="list-style-type: none"> • The number of schools reporting that available Information Technology has been interfaced for appropriate management functions and applications (central and site-based) by staff members 		
Who	Actions	Target	Met?
Technology Coordinator	Assess the possibility of data-based management information systems that can be interfaced.	2008	Yes
Technology Coordinator	Interface the data-based management information systems.	2009	Yes
Student Information Coordinator	Train staff in the use of of data-based management information systems.	2009	Yes

Topical Area: Accountability			
Goal 3: Assess information technology (IT) literacy.			
Target #1: All students are technology literate.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Students will be effective users of technology for personal use and lifelong learning. 		
Reality	<ul style="list-style-type: none"> • Not all teachers are aware of the Virginia Technology Standards of Learning. • Not all students are being exposed to the Virginia Technology Standards of Learning. 		
Gap	<ul style="list-style-type: none"> • In-service training is needed to encourage stakeholders to effectively incorporate the Computer/Technology Standards of Learning in classroom instruction. 		
Progress Measures	<ul style="list-style-type: none"> • The number of principals reporting that observations and teachers' lesson plans indicate Computer/Technology Standards of Learning are being seamlessly integrated into appropriate curriculum areas 		
Who	Actions	Target	Met?
ITRT and Assistant Superintendent	Provide in-service training to assist teachers in developing lesson plans that incorporate the Computer/Technology Standards of learning.	2009	No
Assistant Superintendent	Modify the teacher evaluation instrument so that principals can record teachers' integration of the Computer/Technology Standards of Learning during observations and lesson plan reviews.	2009	Yes

Topical Area: Accountability			
Goal 3: Assess information technology (IT) literacy.			
Target #2: All instructional personnel are technology literate.			
Direct Benefit to Teaching and Learning		• Teachers will be effective users of technology to fulfill their professional responsibilities.	
Reality		<ul style="list-style-type: none"> • Each division has its own definition and means of assessing Information Technology literacy for its instructional personnel. • Teachers are at various levels of proficiency. 	
Gap		• Old certification does not equate to current technology literacy.	
Progress Measures		• The percentage of instructional personnel who do not require technology literacy refresher training	
Who			
Actions		Target	
Met?			
Principals	Notify the Instructional Technology Resource Teacher of technology refresher training needs.	Annually, Ongoing	Yes
ITRT and outside consultants	Provide refresher training to instructional personnel as needed.	Annually, Ongoing	Yes

Topical Area: Accountability			
Goal 3: Assess information technology (IT) literacy.			
Target #3: All paraprofessionals and support staff are technology literate.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> Paraprofessionals and support personnel will be effective users of technology to fulfill their job-related responsibilities. 		
Reality	<ul style="list-style-type: none"> Training is not being consistently provided to all paraprofessionals and support staff. 		
Gap	<ul style="list-style-type: none"> Models of support staff training in appropriate technology need to be developed and shared. 		
Progress Measures	<ul style="list-style-type: none"> The number of paraprofessionals and support staff that have been provided technology literacy training as related to their job requirements 		
Who	Actions	Target	Met?
ITRT	Develop and deliver technology literacy training to paraprofessionals and support staff as appropriate to their job requirements.	2009	Yes
Principals	Provide technology literacy training opportunities to paraprofessionals and support staff as appropriate.	2009	Yes

Topical Area: Accountability			
Goal 3: Assess information technology (IT) literacy.			
Target #4: Students meet expectations for technology utilization pertaining to their subject and grade level as described by school division technology plans.			
Direct Benefit to Teaching and Learning	• Students will utilize technology as a learning tool within the context of their subject and grade level.		
Reality	• Not all classrooms have clearly defined student technology literacy expectations by subject and grade level.		
Gap	• Models of student technology utilization by subject and grade level need to be developed or identified and shared.		
Progress Measures	• Results of school division assessment of grade and subject technology utilization competencies and skills		
Who	Actions	Target	Met?
Principals	Survey instructional staff to determine the technology literacy skills required for students in specific content areas/grade levels.	2009	No
Technology Coordinator, Principals	Develop an assessment model that measures student technology literacy by subject and grade level.	2009	No

Topical Area: Accountability			
Goal 4: Ensure that local technology plans are consistent with the state technology plan.			
Target #1: All schools and school divisions will evaluate annually the progress and effectiveness of their technology plans.			
Direct Benefit to Teaching and Learning	<ul style="list-style-type: none"> • Educational technology stakeholders will be able to determine the effectiveness (as related to teaching and learning) of educational technology investments. 		
Reality	<ul style="list-style-type: none"> • Evaluation components of most technology plans need refinement and additional research and development, particularly in relation to determining the effectiveness of technology integration implementation. 		
Gap	<ul style="list-style-type: none"> • Models for gauging the effectiveness of educational technology investments on teaching and learning need to be developed, tested, and then widely distributed to K-12 educational technology stakeholders. 		
Progress Measures	<ul style="list-style-type: none"> • The number of benchmarks met and/or revisions made in accordance with the school division technology plan • Keep technology-related infrastructure/ implementation information current using commonly defined (statewide usage) standard technology issue descriptors that relate to the planning targets outlined in the Educational Technology Plan for Virginia: 2003-2009. • Ensure that technology plans contain a clear and updated needs assessment and a system for assessing the implementation of technology planning objectives. 		
Who	Actions	Target	Met?
Technology Committee	Uses commonly defined (statewide usage) standard technology issue descriptors that relate to the planning targets outlined in the Educational Technology Plan for Virginia: 2003-2009 to communicate the revisions to the school division technology plan	Ongoing	Yes
Technology Committee	Uses a checklist to assess the implementation of technology planning objectives.	Ongoing	Yes
Technology Committee	Communicates progress in assessing the implementation of technology planning objectives to the superintendent	Quarterly	Yes

**2010-2015 Educational
Technology Plan Update for
Lancaster County Public Schools**
(Revised Summer 2010)

Goals, Objectives, & Strategies

Our goals, objectives, and strategies are grouped into six categories. The first five are derived from the 2010-2015 Educational Technology Plan for Virginia. The sixth category focuses on administrative services.

- Appropriately and Adequately Designed Environment
- Stimulating Engagement
- Purposeful Application of Tools for Learning
- Use of Authentic Technology Tools to Extend Learning Capabilities
- Authentic and Intelligent Assessments
- Administrative Services

Appropriately and Adequately Designed Environment

Schools need to consider physical and virtual environments in new and innovative ways to support learning activities.

—Educational Technology Plan for Virginia: 2010-2015

Goals

1. Provide a safe, flexible, and effective learning environment for all students.

Objectives

1. Deliver appropriate and challenging curricula through real, blended, and virtual learning environments.
2. Provide the technical and human infrastructure necessary to support real, blended, and virtual learning environments.
3. Provide high-quality professional development to help educators create, maintain, and work in a variety of learner-centered environments.

Strategies

1. Make students and staff aware of distance learning courses offered through the Chesapeake Bay Governor's School, Virtual Virginia, and other online educational organizations.
2. Provide support for staff who work in distance learning settings by providing them with adequate professional development, support, and equipment.
3. Determine if the Wide Area Network (WAN) and Local Area Network (LAN) bandwidth of each school are adequate to support the school's instructional program and administrative needs.
4. Determine if wireless LAN is a suitable solution for each school's instructional and administrative needs.
5. Provide web-based content and collaborative tools to supplement face-to-face instruction.
6. Evaluate tools that encourage collaboration, such as wikis, Google Apps, and social networking software.
7. Provide opportunities and incentives for staff to master [ISTE's](#) NETS (National Educational Technology Standards) for teachers and administrators.
8. Obtain a list of websites, software, and other resources used in Virtual Virginia and other distance learning courses. Ensure that these resources are tested and available for use prior to the courses' start dates.

Needs Assessment

-

Stimulating Engagement

Educators must employ multiple ways to engage students in learning through technology. This engagement should reflect student learning styles, cultural backgrounds, and personal interests.

—Educational Technology Plan for Virginia: 2010-2015

Goals

1. Engage students in meaningful curricular content through the purposeful and effective use of technology.

Objectives

1. Support innovative professional development practices that promote strategic growth for all educators and collaboration with other educators, content experts, and students.
2. Identify and promote practices that use technology to increase student engagement.
3. Actualize the ability of technology to individualize learning and provide equitable opportunities for all learners.
4. Facilitate the implementation of high-quality Internet safety programs in schools.

Strategies

1. Collaborate with regional consortia such as the Four Rivers. Explore the possibility of delivering these workshops through distance learning channels, such as web-based workshops .
2. Provide teachers with opportunities and incentives to use web-based collaboration tools, such as wikis and Google Apps, to develop instructional content and planning materials such as curriculum maps.
3. Develop and publish a collection of technology integration best practices that increase student engagement, such as libraries of online images and videos, interactive whiteboards, and digital storytelling. Provide professional development workshops on these practices.
4. Provide tools that enable students to collaborate online. For example, allow students to respond to discussion questions by using a web-based discussion board.
5. Weigh the pros and cons of using social networking tools to supplement instruction.

6. Identify and disseminate best practices and resources to promote the integration of Internet safety and security throughout the curricula.
7. Explore the use of gaming to increase student engagement.

Needs Assessment

- Determine technology skills, strengths, and weaknesses of instructional staff; and develop appropriate professional development to address those needs.
- Increase the number of computer labs, so that students can have access to computing devices.

Note: Due to the strong similarities between the following two focus areas, the [Strategies and Needs Assessment](#) for them were combined.

Purposeful Application of Tools for Learning

Students need to understand the proper application of technology tools, i.e., choosing and applying the most appropriate technology for communicating and problem solving and to be creative and innovative.

—Educational Technology Plan for Virginia: 2010-2015

Goals

1. Provide students with opportunities to apply technology effectively to gain knowledge, develop skills, and create and distribute artifacts that reflect their understandings.

Objectives

1. Provide and support professional development that increases the capacity of teachers to design and facilitate meaningful learning experiences, thereby encouraging students to create, solve problems, communicate, collaborate, and use real-world skills by applying technology purposefully.
2. Ensure that students, teachers, and administrators are ICT (Information and Communications Technologies) literate.
3. Implement technology-based formative assessments that produce further growth in content knowledge and skills development.

Use of Authentic Technology Tools to Extend Learning Capabilities

Students should not use technology tools just to replicate paper-and-pencil activities. Tools should extend student capabilities to perform functions that would be difficult, if not impossible, without technology. Tools should be authentic; that is, tools that students will encounter in the nonschool environment.

—Educational Technology Plan for Virginia: 2010-2015

Goals

1. Provide students with access to authentic and appropriate tools to gain knowledge, develop skills, extend capabilities, and create and disseminate artifacts that demonstrate their understandings.

Objectives

1. Provide resources and support to ensure that every student has access to a personal computing device.
2. Provide technical and pedagogical support to ensure that students, teachers, and administrators can effectively access and use technology tools.
3. Identify and disseminate information and resources that assist educators in selecting authentic and appropriate tools for all grade levels and curricular areas.

Strategies

Note: These strategies and the accompanying needs assessment cover Focus Areas 3 and 4.

1. Charge Lancaster County Schools' Technology Committee with the task of creating a document that defines ICT literacy. ICT literacy is a moving target, so the committee will revisit its document at least once a year. The committee will use the [ISTE National Educational Technology Standards](#), the [Virginia Computer/Technology Standards of Learning](#), and the experiences of its own members as the basis for its definition.
2. Identify the level of ICT literacy among administrators, teachers, and students.
3. Close the "ICT Gap" by providing professional development opportunities for teachers and administrators and instructional opportunities for students.
4. Have students use appropriate technology tools in elementary school and integrate that process into the rest of the curriculum, by reviewing curriculum maps to identify opportunities for technology integration. (Example: introduce elementary students to spreadsheet concepts by having them use spreadsheets to solve math word problems.)
5. Explore methods of introducing students to computational thinking, which draws on concepts from computer science, education, sociology, and psychology to improve education.

Computational thinking is a way of solving problems, designing systems, and understanding human behavior that draws on concepts fundamental to computer science. To flourish in today's world, computational thinking has to be a

fundamental part of the way people think and understand the world. Computational thinking means creating and making use of different levels of abstraction, to understand and solve problems more effectively. Computational thinking means thinking algorithmically and with the ability to apply mathematical concepts such as induction to develop more efficient, fair, and secure solutions. Computational thinking means understanding the consequences of scale, not only for reasons of efficiency but also for economic and social reasons.

[—Carnegie Mellon University's Center for Computational Thinking](#)

6. Encourage teachers and students to expand their concept of how traditional learning opportunities such as science projects and research papers are created and delivered. For example, students could submit a science project as a webpage instead of the traditional trifold cardboard panel.
7. Use tools such as Interactive Achievement, and classroom response systems to provide technology-based formative and summative assessments.
8. Provide professional development for administrators and teachers on how to use technology to analyze assessment data.
9. Provide opportunities for students to learn and apply ICT skills in local and community settings using a variety of authentic tools, for example:
 - Developing partnerships between schools and community organizations in which students learn the importance of ICT skills to local organizations and progress to the point of providing ICT services, such as print/web design or database development, to community groups and organizations
10. Identify and disseminate information about new and emerging technologies.
11. Design and implement pilot projects to evaluate a variety of personal computing devices and software, including open-source software.
12. Encourage teachers to help students gain knowledge, develop their skills, extend their capabilities, and create and disseminate artifacts that demonstrate their understandings through the use of project-based learning.
13. Encourage teachers to model ICT skills for students.

Needs Assessment

- Help students develop the knowledge and skills that will enable them select the appropriate tools for solving a particular problem. When faced with a problem, students and adults tend to select the tools with which they are most comfortable, which are not necessarily the most appropriate tools for the job. Most of the people who can successfully apply technology tools to solving non-trivial problems and tasks have developed their skills through years of practice and experience. We need to accelerate this process, so that our students can attain these skills by the time they graduate.
- Because technology changes so rapidly, we need to prepare students to learn to use technology tools that don't yet exist.
- Help teachers develop the skills they need to help students master technology skills.
- Increase the number of computer labs, so that students can have access to computing devices.

Authentic and Intelligent Assessments Results

are not just a matter of meeting accountability requirements but using data, including real-time assessments, to inform instruction. Teachers addressing 21st century skills and knowledge must employ intelligent assessments.

—Educational Technology Plan for Virginia: 2010-2015

Goals

1. Use technology to support a culture of data-driven decision making that relies upon data to assess and improve teaching and learning.

Objectives

1. Use data to inform and adjust technical, pedagogical, and financial support.
2. Provide support to help teachers disaggregate, interpret, and use data to plan, improve, and differentiate instruction.
3. Promote the use of technology to inform the design and implementation of next-generation standardized assessments.

Strategies

1. Use online assessment tool, such as Interactive Achievement for formative assessments.
2. Use Classroom Response Systems ("clickers") and other tools that provide teachers with real-time feedback on student understanding.
3. Load SOL assessment data—both overall scaled scores and reporting category scores—for all grades into the student information system, so that teachers can view their students' performance on past assessments.
4. Develop methods to make all the data available from student assessments available to teachers and administrators in user-friendly formats.

Needs Assessment

- The Student Performance By Question data extract available from PEM Solutions needs to be transformed into a more usable format.
- Additional Classroom Response Systems ("clickers"), or some other means of providing teachers near instant feedback on student understanding, are needed.

Administrative Services

Goals

1. Administrators and support staff will have access to technologies that provide for the maintenance, reporting, communication, and analysis of student and administrative data.
2. Schools will use technology to help maintain a safe and secure learning environment.

Objectives

1. Provide administrators and support staff with training on the use of spreadsheets, databases, and other computerized data analysis tools.
2. Provide administrators with training and software to more efficiently manage financial information, inventory, and other division assets.
3. Identify appropriate technologies to support a safe and secure learning environment.
4. Identify and correct network and computer-related security vulnerabilities.

Strategies

1. Adopt and maintain a comprehensive, standardized software package to support student and administrative data management, analysis, and reporting.
2. Provide ongoing training for administrative, teaching, and clerical staff in the use of student and administrative data management software and productivity software.
3. Develop or adopt a database for storing and analyzing student assessment data, including standardized test results.
4. Use cell phones, school Web pages, intranets, and other notification methods to improve communications capabilities among administrators, teachers, students, and the public.
5. Equip schools with security cameras, digital video recorders, and access control systems and train administrators, staff, and teachers how to use this equipment.
6. Perform an annual network penetration/security assessment.
7. Adopt a computer password policy that mandates strong passwords and appropriate password security measures.
8. Encrypt any sensitive information that is sent by email, such as payroll ACH files.
9. Identify critical network components and points of failure and provide redundancy or next-day maintenance contracts to limit downtime caused by network equipment failures.
10. Maintain and expand the centralized Voice Over Internet Protocol (VOIP) phone system.
11. Evaluate [Google Apps Education Edition](#) for email, calendaring, and collaborative services.

Needs Assessment

- Retain a consultant to audit telephone bills for potential savings.
- Retain a consultant to provide telecommunications configuration/troubleshooting services that are beyond the scope of inhouse personnel.
- Identify any network security vulnerabilities by performing a network penetration test.

Glossary

Assistive Technologies

Innovative technologies that modify or adapt the classroom for special learning needs.

AUP (Acceptable Use Policy)

A written agreement of a school or university that provides guidelines and/or specifies the permissible actions for students and faculty using the educational unit's local area and wide area networks.

Broadband A channel with a bandwidth greater than voice-grade channels, characterized by speeds of 10,000 to 50,000 bps.

(CAI) Computer-Assisted Instruction

Applications in which a computing system is used to assist in the instruction of students.

Curriculum Maps

A calendar-based compilation of the content, skills, and assessments that a child experiences at each grade level. It is a tool for communication and long- and short-term planning.

Data Element

A single entry of recorded information in a database.

Data Warehouse

A logical or physical repository of data designed to support management decision making or research operations.

Decision Support

The collection of data used to develop plans for making decisions regarding a school instructional program.

Distance Learning

Any of a number of technologies involving course taking or educational participation at a distance, with synchronous or asynchronous communication between student and teacher.

Educational Technology

Encompasses knowledge about and use of computers and related technologies in (a) delivery, development, prescription, and assessment of instruction; (b) effective uses of computers as an aid to problem solving; (c) school and classroom administration; (d) educational research; (e) electronic information access and exchange; (f) personal and professional productivity; and (g) computer science education.

Evidence-Based Research or Scientifically Based Research

Involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs.

High-Need Schools

Schools that have a high number or percentage of students from families with incomes below the poverty line, and that have been identified for improvement or corrective action under section 1116 of the ESEA.

High-Quality Professional Development

High-quality, sustained, intensive, and classroom-focused activities that have a positive and lasting impact on classroom instruction and the teacher's performance in the classroom, and are not one-day or short-term workshops or conferences.

High-Speed Internet

A broadband Internet connection that transmits data such as e-mail and Web pages much faster than "dial-up" services.

Information Literate

The ability to recognize when information is needed and to effectively locate, evaluate, and use the information.

Information Technology

The technology and management techniques used to handle and process information and its applications.

Infrastructure

The basic facilities, equipment, and installations needed for the functioning of a system.

Instructional Models

The broadest level of instructional practices used to select and structure teaching strategies, methods, skills, and student activities for a particular instructional emphasis.

Integration

The ability to identify and select an integral component or tool for learning and communications within the context of academic subject areas.

Interoperability

The capability of equipment and software products to communicate and work together to share information.

Intranet

A localized network of computers that can communicate with each other electronically.

LAN

An interconnected system of computers and/or peripheral equipment (e.g., printers) that is confined to a limited area, such as a room, building, or campus, that enables connected users to communicate and share information and resources.

PDA (Personal Digital Assistant)

A handheld computer that often includes pen-based entry and wireless transmission to a cellular service or desktop system.

Portals

Web pages that serve as gateways to the Internet.

Remote Access

Access to a computer or network from a location that is removed from the physical site of the computer or network.

Rubric

A scoring tool that lists performance criteria for a piece of work.

TCO (Total cost of ownership)

A type of calculation designed to assess both direct and indirect costs and benefits related to the purchase of any information technology component.

Technology Literate

To possess technology skills that support learning, personal productivity, decision making, and daily life.

Technology-Based Instructional Strategies

Instructional strategies that use technology to achieve learning objectives.

Telephony

The transmission of voice or other sound by means of electrical signals sent over wires or radio waves.