

# **Educational Technology Plan for Westlake City SD - 045062**

**School Years:**

**2006-07**

**2007-08**

**2008-09**

**eTech Ohio Certified on Jun 23, 2006**

**Certification Period: July 1, 2006 - Jun 30, 2009**

*\*created using the eTech Ohio online Technology Planning Tool version 3.0 (TPTv3)*

## **TABLE OF CONTENTS**

### **Pre-Planning**

- 1.0 Establish Technology Planning Committee
- 1.1 Overview of TPT v3 Planning Framework
- 1.2 Review Current Technology Plan
- 1.3 Vision/Mission

### **Curriculum Alignment & Instructional Integration**

- 2.1 Curriculum Alignment to Ohio Technology Academic Content Standards (ACS)
- 2.2 English Language Arts Academic Content Standards
- 2.3 Fine Arts Academic Content Standards
- 2.4 Foreign Language Academic Content Standards
- 2.5 Mathematics Academic Content Standards
- 2.6 Science Academic Content Standards
- 2.7 Social Studies Academic Content Standards
- 2.8 Technology Academic Content Standards

### **Technology Policy, Leadership and Administration**

- 3.1 Analyzing District Education Technology Policies
- 3.2 Analyzing District Leadership
- 3.3 Technology Leader/Coordinator Time Commitments

### **Technology Infrastructure, Management and Support**

- 4.1 Networking, Internet & Telecommunications
- 4.2 Access to Technology
- 4.3 Stakeholder Access to Educational Information & Applications
- 4.4 Educational Software
- 4.5 Security
- 4.6 Technology Support and Management
- 4.7 Total Cost of Ownership

### **Budget and Planning**

- 5.0 Budget

### **Appendix A - Additional Documents**

## Pre-Planning

### 1.0 Establish Technology Planning Committee

Assistive Technology/Special Needs Coordinator  
 Curriculum Coordinator  
 Instructional Integrationist  
 Library/Media Specialist  
 Parent  
 Principal  
 Superintendent  
 Teacher  
 Technology Coordinator  
 Technology Support  
 Treasurer  
 Other

#### Approvers:

James Costanza (Superintendent)  
 Hal Kendrick (Technology Coordinator/Director)  
 Mark peperera (Treasurer)

### 1.1 Overview of TPT v3 Planning Framework

eTech Ohio's Technology Planning Tool version v 3.0, strategically addresses technology planning in an educational organization and provides guidance in implementing technology to increase student achievement. Within this technology plan you will find the educational organization's vision and mission statements as well as a plan for the following: ODE Academic Content Standards (ACS) alignment with the ODE Technology ACS, technology integration into the curriculum, technology policy, technology leadership and administration, infrastructure and networking, and budgeting.

The technology planning framework addresses 5 questions adapted from "Asking the Right Questions: Techniques for Collaboration and School Change" by Edie Holcomb. In each phase of the plan, narrative responses describe the educational organization's technology planning in the following manner:

**"Where are we now?"** addresses ASSESSMENT of current status within the educational organization

**"Where do we want to go?"** addresses GOALS for growth in various areas

**"How will we get there?"** addresses PROFESSIONAL DEVELOPMENT necessary to achieve goals

**"How will we know we're getting there?"** addresses the EVALUATION PROCESS that enables the educational organization to MONITOR PROGRESS toward the specified goals.

**"How do we sustain the momentum?"** Addresses ORGANIZATIONAL SUPPORT, EVALUATION and REVISION processes to achieve the goals

As Ohio endeavors to build more agile and effective school improvement plans, this technology plan will be an instrumental tool in fostering quality planning and managing technological changes that will impact the communities where we live.

### 1.2 Review Current Technology Plan

#### "Was the plan realistic then?"

Our Technology Coordinating Committee revised our Technology plan last school year. The plan was not realistic in our view. We had too many goals. We narrowed down our goals to 5. These 5 goals are concise and achievable.

#### "Is the plan realistic now?"

Our Technology Coordinating Committee revised our Technology plan last school year. The plan was not realistic in our view. We had too many goals. We narrowed down our goals to 5. These 5 goals are concise and achievable.

### 1.3 Vision/Mission

#### A. Vision

The Westlake Schools will pervasively integrate technology throughout the educational program to facilitate enhanced student and teacher learning and growth. Specifically we will:

- Create a collaborative learning environment that uses technology to facilitate higher-level thinking and problem solving skills.
- Create learning processes that apply knowledge and skills to access, analyze and evaluate information for the production of quality academic results.
- Create a flexible, rich environment with powerful, accessible tools to support learning, increase productivity and improve communication within the school and global community.
- Create an environment that encourages and supports student and staff acquisition of the skills and knowledge to comfortably and powerfully use current and emerging technologies.

**B. Mission**

WE EDUCATE FOR EXCELLENCE

Empowering all students to achieve their educational goals,  
to direct their lives, and to contribute to society.

## Curriculum Alignment & Instructional Integration

### 2.1 Curriculum Alignment to Ohio Technology Academic Content Standards (ACS)

Discuss the level of effective technology integration into the instructional process of each academic content standard. Include the use of assistive and adaptive technologies serving special needs populations. For ESCs, also discuss how you are assisting your contracted schools with integrating technology into their instructional process.

	Where are we now?	Where do we want to go?
English Language Arts	In Progress	2005-06
Fine Arts	In Progress	2007-08
Foreign Language	Not Started	2007-08
Mathematics	In Progress	2005-06
Science	In Progress	2005-06
Social Studies	In Progress	2005-06
Technology (specific course)	In Progress	2005-06
Other Content Areas	In Progress	2007-08

#### How will we get there?

The District has three Technology Resource Specialists, one for each level, and their job is to assist teachers in integrating technology throughout the curriculum. Professional development occurs on a daily basis throughout the district. Teachers have access to a Technology Resource Specialist to model lessons, team teach, create integration projects and activities, teach instructional applications, and to improve basic skills. Teachers have reported that in-services are more focused and relevant now, than in the past. They feel that half-day in-services are most conducive to learning technology, then summer workshops.

The Technology Integration Specialists used the state alignment tool to align the ACS for Technology with the ACS for Language Arts, Math, Social Studies, and Science. We went through each technology indicator and stated whether or not it aligned to any of the ACS for LA, M,SS, or SC. We labeled each with Standard, benchmark, and indicator number. The TIS's went to the ETech Ohio Technology Conference and learned how other districts are achieving this goal. We are now in the process of determining our next step. We plan to meet with each curriculum writing team and discuss the alignment in their areas. We will then focus on integrated the indicators that are not aligned in any area of the curriculum.

#### How will we know we're getting there?

The Technology Integration Specialists used the state alignment tool to align the ACS for Technology with the ACS for Language Arts, Math, Social Studies, and Science. We went through each technology indicator and stated whether or not it aligned to any of the ACS for LA, M,SS, or SC. We labeled each with Standard, benchmark, and indicator number.

We will meet with the curriculum writing teams for each academic content area and discuss our alignment of the technology content standards into their areas. We will then decide how and where, the indicators that have not been addressed, fit into the curricula.

#### How will we sustain focus and momentum?

The Technology coordinating Committee will continue to attend inservices through ETech and other sources to learn more on this topic and to see how other districts are managing this task.

The Technology Integration Specialists will attend curriculum review meetings to help team align the TACS with the curriculum being reviewed.

The Technology Coordinating Committee will evaluate on a monthly basis, how we are doing in each aspect of the plan using the Action Plans by Completion Date document we have created.

### 2.2 English Language Arts Academic Content Standards

#### Instructional Integration

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	Where are we now?	Where do we want to go?
Pre-K	2.0	4.0
K-2	4.0	5.0
3-4	4.0	5.0
5-7	4.0	5.0
8-10	3.0	4.0
11-12	2.0	4.0

### How will we get there?

#### Learning Goals

1. Standards-Based learning in an information-rich, tool-rich environment;
2. Collaborative learning when communication can be synchronous and asynchronous;
3. Learning at paces and times of students' choosing
4. Learning marked by continuous improvement of a piece of work
5. Improved student-faculty and student-student interaction, and enhanced feedback

#### An expanded process

Read and study: K-12 teachers in various study groups have read and studied the current literature on how students learn and develop literacy

#### Data collection

In addition to the research, data was collect on all Westlake City School students K-12 to identify strengths and weaknesses in our current LA program.

#### Collaboration and input

Drafts of our work were regularly shared with all teachers and administrators as our learning and writing progressed. These sessions regularly involved grade level colleagues in monitoring and shaping the work, and provided increased and comprehensive feedback along the way.

#### Professional development

The strength of this program has been the significant learning that has been achieved by a large part of the staff in developing and defining writing, reading, listening and speaking standards at each level. The staff has committed to becoming a professional learning community.

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. We have created a Lesson Sharing Database for teachers. Teachers can search for lessons by standard, indicator, grade level, and topic. Teacher can also submit their own lessons into this Online database. The database includes the standards for Math, Language Arts, and Science, Social Studies, Science, Technology.

Technology Resource Specialists held 1/2 day workshops on integrating technology into the curriculum. The High School English Department learned how to integrate Microsoft Word to teach the skills designated by the

9-12 grade curriculum. The elementary teachers learned how to integrate technology into LA, Math, SS, and SC. Grade K-4 teachers explored the LA, Math, SS, and SC Integration pages and the Lesson Sharing Database discuss previously. The elementary teachers also participated in a workshop focused on classroom Webpage creation.

The TCC is now considering Pow-Pak, a Web design software template for teachers to use to create classroom Webpages. Our hope is to increase teacher webpages considerably by offering an alternative way to creating and maintaining a Webpage. We believe that by increasing teacher classroom Webpages, we will in turn, effect student achievement and parent involvement. Student achievement will be increased by increasing teacher use of technology integration in the classroom. Parent involvement will increase through easy access to classroom activities and progress through classroom Webpages.

The elementary teachers are beginning to implement classroom Web Logs. Our hope is to increase student writing skills across the curriculum by integrating the Online Journals throughout the curriculum. Our belief is that by using technology as a tool, students will be more motivated to write, therefore increasing their ability to produce high quality extended responses on the Ohio Achievement tests.

#### **How will we know we're getting there?**

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for LA, MA, SS, and SC. We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

#### **How will we sustain focus and momentum?**

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as 1/2 day inservice opportunities that correlate with the curricular area that is up for review.

## **2.3 Fine Arts Academic Content Standards**

### **Instructional Integration**

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	<b>Where are we now?</b>	<b>Where do we want to go?</b>
Pre-K	1.0	2.0
K-4	2.0	3.0
5-8	3.0	4.0
9-12	3.0	4.0

#### **How will we get there?**

Visual art education is a fundamental part of every child's learning experience. An integral part of the way children learn and develop, the visual arts engage multiple skills and abilities. Visual art education offers teachers avenues to reach all students. It provides opportunities for learning, enabling young people to reach for and attain higher levels of achievement.

The visual arts are an essential means of connecting segments of the curriculum and are a bridge to learning and success in other disciplines. Visual arts education is a part of a balanced curriculum as they are inherently interdisciplinary and nurture the development of cognitive, social and personal competencies. The visual arts

provide authentic learning experiences that engage a child's mind, heart and body. The capacity for critical thinking, analysis, creative problem solving and the development of multiple intelligences are enhanced through visual arts education/experiences. The visual arts connect learning experiences to real world situations by providing students with the skills to meet the challenges of the future.

Learner goals:

- Understand and appreciate the role of the visual arts in people's lives and the artistic achievements of the own and other societies, past and present
- Demonstrate a basic understanding of visual processes, vocabulary, media and techniques
- Develop a sense of aesthetic awareness
- Appreciate and respond to the visual arts
- Utilize the visual arts as an extension of personal expression, creative problem solving skills and awareness of career opportunities.

The ACS for Visual Arts state that technology be used as a tool to help students achieve these standards. The TCC will meet with the Visual Arts curriculum team and review the TACS and where they can be applied to the ACS for Visual Arts to positively effect student achievement.

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. The TCC will work with the Visual Art teachers at each level to develop lessons to include in the Lesson Sharing Database.

Technology Resource Specialists held 1/2 day workshops on integrating technology into the curriculum. Visual Arts teachers are encouraged to attend.

The elementary teachers participated in workshops focused on classroom Webpage creation. Visual Arts teachers were included in these workshops. The TCC will continue to work with these teachers to promote the creation and maintainence of these pages. Some visual arts instructors maintain a classroom Webpage that exhibits student work as well as promotes student achievement through the use of the Internet.

The TCC is now considering Pow-Pak, a Web design software template for teachers to use to create classroom Webpages. Our hope is to increase teacher webpages considerably by offering an alternative way to creating a maintaining a Webpage. We believe that by increasing teacher classroom Webpages, it will in turn, effect student acievement and parent involmment. Student achievement will be increased by increasing teacher use of technology integration in the classroom.

#### **How will we know we're getting there?**

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for LA, MA, SS, and SC. We will be doing the same for the ACS for Visual Arts.

We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

The TCC conducts a district survey each year, asking staff to self-assess technology skills. We ask teachers to clearly state what tools, professional development, and other assistance they need to fully implement each area of the curriculum. We will use this survey to monitor our progress.

#### **How will we sustain focus and momentum?**

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as

1/2 day inservice opportunities that correlate with the curricular area that is up for review.

We will also do a needs assessment to find out what areas of the Visual Arts curriculum need intervention. By using the needs assessment results, the workshop evaluations, informal observation, the Beta Survey results, and the Ohio Math Achievement results, the team should be able to determine what our district needs are and focus any interventions/modifications.

## 2.4 Foreign Language Academic Content Standards

### Instructional Integration

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	Where are we now?	Where do we want to go?
Pre-K	N/A	N/A
K-4	N/A	N/A
5-8	2.0	3.0
9-12	2.0	3.0

### How will we get there?

The mission of foreign language education in the Westlake City Schools is to empower all learners to communicate with peoples of the world. The goals serve to enact the mission. The goals of the Westlake City Schools are guided by the goals and content standards in the National Standards in Foreign Language Education Project entitled, Standards for Foreign Language Learning: Preparing for the 21st Century.

#### Learner Goals

Goal 1: To empower learners to communicate in a foreign language for multiple purposes, in a variety of modes, and within a wide range of cultural contexts.

Goal 2: To empower learners to demonstrate knowledge of world cultures, develop an appreciation of cultural diversity, and expand awareness of their own language and culture.

Goal 3: To empower the learners to expand opportunities to use language by connecting with other disciplines, accessing information through authentic language sources, and by interacting in the global society.

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. We have created a Lesson Sharing Database for teachers. Teachers can search for lessons by standard, indicator, grade level, and topic. Teacher can also submit their own lessons into this Online database. The TIS's will work with the Foreign Language teachers to create lessons to add to the lesson sharing database

Technology Resource Specialists held 1/2 day workshops on integrating technology into the curriculum. Thus far, we have yet to create any courses directed specifically toward integration of technology into the Foreign Language curriculum. WCS schools uses foreign language software to supplement its curriculum.

### How will we know we're getting there?

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for LA, MA, SS, and SC. We will be doing the same for the ACS for Foreign Language.

We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once

per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

The TCC conducts a district survey each year, asking staff to self-assess technology skills. We ask teachers to clearly state what tools, professional development, and other assistance they need to fully implement each area of the curriculum. Starting this year, we will be adding specific questions targeting the foreign language curriculum. We will use this survey to monitor our progress.

#### How will we sustain focus and momentum?

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as 1/2 day inservice opportunities that correlate with the curricular area that is up for review.

We will also do a needs assessment to find out what areas of the foreign language curriculum need intervention. By using the needs assessment results, the workshop evaluations, informal observation, the Beta Survey results, the team should be able to determine what our district needs are and focus any interventions/modifications.

## 2.5 Mathematics Academic Content Standards

### Instructional Integration

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	Where are we now?	Where do we want to go?
Pre-K	1.0	3.0
K-2	3.0	5.0
3-4	3.0	5.0
5-7	3.0	5.0
8-10	3.0	5.0
11-12	2.0	5.0

### How will we get there?

The goals of the mathematics program are that all students will:

- become mathematical problem solvers.
- communicate mathematically.
- reason mathematically.
- apply mathematics to everyday situations.
- utilize the technology available for mathematical problem solving.

The WCS mathematics program, based on state standards, ensures that all students have an opportunity to become mathematically literate; that they have equal opportunities to learn, extend their learning, and apply their understanding in society. The knowledge of mathematics and its value are essential elements in the development of the whole person. Mathematics is more than a collection of concepts and skills to be memorized and mastered. Mathematics includes problem solving, reading, writing, and thinking. Thus, an appropriate mathematics curriculum includes the investigation of the connections and interplay among various mathematical

topics and their applications at every grade level and in every content area, integrating technology throughout.

All students should learn to formulate and solve problems with a variety of strategies, verify and interpret results, and generalize solutions. They should recognize and execute mathematical procedures reliably and efficiently. They should also justify their results, as well as generate new procedures and extend or modify familiar ones. They should know how to use technology to solve a problem and for personal productivity.

All students should be provided access to the full range of mathematical topics. Knowledge of number, number sense, and operations; measurement; geometry and spatial sense; patterns, functions and algebra; and data analysis and probability is a necessary foundation for all students. Students' interests, goals, and achievements change as they mature and advance through their school career. Therefore, the mathematics program should meet individual needs, recognizing that individuals have different post-secondary and career objectives, and may pursue careers yet undefined.

Technology, such as calculators and computers, help students learn mathematics and support effective mathematics teaching. Rather than replacing the learning of basic concepts and skills, technology can connect skills and procedures to deeper mathematical understanding. For example, geometry software allows experimentation with families of geometric objects, and graphing utilities facilitate learning about the characteristics of classes of functions.

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. We have created a Lesson Sharing Database for teachers. Teachers can search for lessons by standard, indicator, gradelevel, and topic. Teacher can also submit their own lessons into this Online database. The database includes the standards for Math, Language Arts, and Science, Social Studies, Science, Technology, encouraging cross-curricular planning.

Technology Resource Specialists held 1/2 day workshops on integrating technology into the curriculum. Teachers learned how to integrate technology into Math. Grades K-4 teachers explored the Math Integration pages and the Lesson Sharing Database discussed previously,.

The TCC is now considering Pow-Pak, a Web design software template for teachers to use to create classroom Webpages. Our hope is to increase teacher webpages considerably by offering an alternative way to creating a maintaining a Webpage. We believe that by increasing teacher classroom Webpages, we will in turn, effect student achievement and parent involvement. Student achievement will be increased by increasing teacher use of technology integration in the classroom.

#### **How will we know we're getting there?**

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for Math. We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

The WCS Department of Curriculum and Instruction has posted the common assessments for math to the Curriculum Website. Along with the curriculum maps, the teachers can access the assessments for their grade level. We have also linked standards-based Web activities and projects to the curriculum maps, so that teachers have easy access to Math lessons that utilize technology as a tool.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

The TCC conducts a district survey each year, asking staff to self-assess technology skills. We ask teachers to clearly state what tools, professional development, and other assistance they need to fully implement each area of the curriculum. Starting this year, we will be adding specific questions targeting the math curriculum. We will use this survey to monitor our progress.

#### **How will we sustain focus and momentum?**

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as 1/2 day inservice opportunities that correlate with the curricular area that is up for review.

We will also do a needs assessment to find out what areas of the math curriculum need intervention. By using the needs assessment results, the workshop evaluations, informal observation, the Beta Survey results, and the Ohio Math Achievement results, the team should be able to determine what our district needs are and focus any interventions/modifications.

## 2.6 Science Academic Content Standards

### Instructional Integration

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	Where are we now?	Where do we want to go?
Pre-K	1.0	3.0
K-2	3.0	5.0
3-5	3.0	5.0
6-8	3.0	5.0
9-10	2.0	4.0
11-12	2.0	4.0

### How will we get there?

The Westlake City Schools' Science curriculum has been developed using the best available resources detailing best practice in the field of Science Instruction. The principal of these resources include the Ohio Department of Education's Academic Content Standards for K-12 Science, The science and Mathematics Achievement Required for Tomorrow Consortium's (SMART) Course of Study, The American Association for the Advancement of Science's Project 2061 Benchmarks for Science Literacy, and the National Research Council's Science Education Standards.

In the case of the ODE Science Academic Content Standards, these standards provide all students in the K-12 program with a set of clear and rigorous expectations and serve as the fundamental core for this course of study. The Science Standards focus on what all students need to know and be able to do for scientific literate citizenship, regardless of age, gender, cultural or ethnic background, disabilities or aspirations in science.

The Science Standards include science concepts, processes, and ways of thinking. All students can apply these skills and understanding to make informed personal decisions, to accurately communicate with a variety of audiences, to become life-long learners, and to make successful transitions to post-secondary education and the work force. The standards also include expectations for all students to safely and effectively use technological tools for learning and doing science.

1. Standards-Based learning in an information-rich, tool-rich environment;
2. Collaborative learning when communication can be synchronous and asynchronous;
3. Learning at paces and times of students' choosing;
4. Learning marked by continuous improvement of a piece of work
5. Improved student-faculty and student-student interaction, and enhanced feedback

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. We have created a Lesson Sharing Database for teachers. Teachers can search for lessons by standard, indicator, grade level, and topic. Teacher can also submit their own lessons into this Online database. The database includes the standards for Science and Technology.

Technology Resource Specialists held 1/2 day workshops on integrating technology into the Science curriculum. The elementary teachers learned how to integrate technology into Science through Webquests. Grade K-4

teachers explored the Science Integration pages and the Lesson Sharing Database discussed previously. The elementary teachers also participated in a workshop focused on classroom Webpage creation. The TCC is now considering Pow-Pak, a Web design software template for teachers to use to create classroom Webpages. Our hope is to increase teacher webpages considerably by offering an alternative way to creating a maintaining a Webpage. We believe that by increasing teacher classroom Webpages, we will in turn, effect student achievement and parent involvement. Student acheivement will be increased by increasing teacher use of technology integration in the classroom. Parent involvement will increase through easy access to classroom activities and progress through classroom Webpages.

The elementary teachers are beginning to implement classroom Web Logs. Our hope is to increase student writing skills across the curriculum by integrating the Online Journals throughout the curriculum. Our belief is that by using technology as a tool, students will be more motivated to write, therefore increasing their ability to produce high quality extended responses on the Ohio Achievement tests.

#### How will we know we're getting there?

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for Science. We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

The TCC conducts a district survey each year, asking staff to self-assess technology skills. We ask teachers to clearly state what tools, professional development, and other assistance they need to fully implement the curriculum. Starting this year, we will be adding specific questions targeting the science curriculum. We will use this survey to monitor our progress.

#### How will we sustain focus and momentum?

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as 1/2 day inservice opportunities that correlate with the curricular area that is up for review.

We will also do a needs-assessment to find out what areas of the science curriculum need intervention. By using the needs-assessment results, the workshop evaluations, informal observation, the Beta Survey results, and the Ohio Achievement results, the team should be able to determine what our district needs are and focus any interventions/modifications.

## 2.7 Social Studies Academic Content Standards

### Instructional Integration

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	Where are we now?	Where do we want to go?
Pre-K	1.0	3.0
K-2	3.0	5.0
3-5	3.0	5.0
6-8	3.0	5.0
9-10	2.0	5.0
11-12	2.0	5.0

#### How will we get there?

Whenever possible, students should have opportunities to learn social studies in real-world contexts. They should be able to examine artifacts, read primary source materials, engage in authentic experiences and take field trips. Research shows that learning is enhanced when students make meaningful connections between new information that they are learning and their own experiences. Combining social studies instruction with the study of other disciplines, such as art and literature, helps to reinforce the learning within each discipline. It also helps the students to develop conceptual frameworks that lead to broader understandings.

New technologies enable students to communicate with people in other locations and engage in realistic simulations. Students and teachers have greater access to timely social studies information including primary sources, statistics and maps. Easy access to information requires that students develop skills to enable them to evaluate the reliability and credibility of information.

Students learn knowledge and skills from each of the seven standards at every grade, rner Goals

1. Standards-Based learning in an information-rich, tool-rich environment;
2. Collaborative learning when communication can be synchronous and asynchronous;
3. Learning at paces and times of students' choosing;
4. Learning marked by continuous improvement of a piece of work
5. Improved student-faculty and student-student interaction, and enhanced feedback

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. We have created a Lesson Sharing Database for teachers. Teachers can search for lessons by standard, indicator, grade level, and topic. Teacher can also submit their own lessons into this Online database. The database includes the standards for Social Studies and Technology.

Technology Resource Specialists held 1/2 day workshops on integrating technology into the Social Studies curriculum. The elementary teachers learned how to integrate technology into Social Studies. Grade K-4 teachers explored the Social Studies Integration pages and the Lesson Sharing Database discussed previously.

The elementary teachers also participated in a workshop focused on classroom Webpage creation.

The TCC is now considering Pow-Pak, a Web design software template for teachers to use to create classroom Webpages. Our hope is to increase teacher webpages considerably by offering an alternative way to creating a maintaining a Webpage. We believe that by increasing teacher classroom Webpages, we will in turn, effect student achievement and parent involvement. Student achievement will be increased by increasing teacher use of technology integration in the classroom. Parent involvement will increase through easy access to classroom activities and progress through classroom Webpages.

#### **How will we know we're getting there?**

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for Social Studies. We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

The TCC conducts a district survey each year, asking staff to self-assess technology skills. We ask teachers to clearly state what tools, professional development, and other assistance they need to fully implement each area of the curriculum. Starting this year, we will be adding specific questions targeting the Social Studies curriculum. We will use this survey to monitor our progress and adjust our professional development program as needed.

These assessments will also be helpful in determining if there are any holes in the Social Studies curriculum. We can then proceed to create resources to fill these needs.

#### **How will we sustain focus and momentum?**

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as 1/2 day inservice opportunities that correlate with the curricular area that is up for review.

We will also do a needs assessment to find out what areas of the Social Studies curriculum need intervention. By using the needs assessment results, the workshop evaluations, informal observation, the Beta Survey results, and the Ohio Achievement results, the team should be able to determine what our district needs are and focus any interventions/modifications.

## 2.8 Technology Academic Content Standards

### Instructional Integration

1.0 **Entry** - Learn the basics of using the new technology.

2.0 **Adoption** - Use new technology to support traditional instruction.

3.0 **Adaptation** - Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.

4.0 **Appropriation** - Focus on cooperative, project-based, and interdisciplinary work - incorporating the technology as needed and as one of many tools.

5.0 **Invention** - Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

	Where are we now?	Where do we want to go?
Pre-K	1.0	2.0
K-2	4.0	5.0
3-5	4.0	5.0
6-8	4.0	5.0
9-10	2.0	3.0
11-12	2.0	3.0

### How will we get there?

WCS students are engaged in activities that promote technological literacy through the development of knowledge and abilities necessary to make informed decisions regarding the use and management of technology. Content area teachers provide learning opportunities that focus on the content in all areas of the curriculum using technology as a tool.

The study of technology allows all students to understand and use technology effectively in order to make successful transitions through the K-12 grades to post-secondary education, the workplace, civic/daily life, and to become lifelong learners. Through the application of technical skills, knowledge, processes, and critical thinking skills, learners will become capable problem solvers and creative thinkers who are prepared to adapt to changing environments, educational challenges and career opportunities.

The assumptions underlying this philosophy are that, in order for all students to become technologically literate, they must, through practice be able to acquire, interpret and disseminate information using computer technologies and other means; understand and use physical technologies such as production techniques and the ability to transport people and goods using appropriate energy and power systems; and be aware of the affects of bio-technologies, particularly those related to agriculture, medical technology, regulation and safety, and waste management, on all aspects of our lives.

The philosophy of the Westlake City Schools technology standards is to ensure that all students will become technologically literate through the understanding of and effective usage of technology in everyday life and the workplace.

Learner Goals:

1. Standards-Based learning in an information-rich, tool-rich environment;
2. Collaborative learning when communication can be synchronous and asynchronous;
3. Learning at paces and times of students' choosing;
4. Learning marked by continuous improvement of a piece of work
5. Improved student-faculty and student-student interaction, and enhanced feedback

The Technology Coordinating Committee has created a document called, "Standards at a Glance". This document defines each of the Technology ACS, explains which technology standards are aligned to which of the other ACS areas, and links cross-curricular model lessons for teachers to use.

The Technology Coordinating Team is in the process of devising a plan to introduce Teacher Standards to the staff and an assessment tool to monitor staff usage and skills in relationship to the standards. We have created a Lesson Sharing Database for teachers. Teachers can search for lessons by standard, indicator, grade level, and topic. Teacher can also submit their own lessons into this Online database. The database includes the standards for all ACS adopted by the State of Ohio.

Technology Resource Specialists held 1/2 day workshops on integrating technology into each area of the curriculum. The elementary teachers learned how to integrate technology throughout the curriculum with the creation of WebQuests for LA, MA, SS, and SC. Grade K-4 teachers explored the Integration pages and the Lesson Sharing Database discussed previously.

The elementary teachers also participated in a workshop focused on classroom Webpage creation. The TCC is now considering Pow-Pak, a Web design software template for teachers to use to create classroom Webpages. Our hope is that giving teachers an user friendly alternative, the number of classroom Webpages will increase significantly.

#### **How will we know we're getting there?**

We have already broken down the ACS for Technology by grade level and aligned each to the ACS for LA, MA, SS, and SC. We will be disseminating this information to teachers through professional development inservices focusing on the curricular area that has been reviewed most recently.

We will monitor our progress by working our plan. The Technology Coordinating committee meets at least once per month. We review our plan and discuss any changes and/or adaptations that need to be addressed. We have also created a calendar containing all the action plans by completion date. This is extremely helpful in keeping us focused and on task.

The TCC conducts a district survey each year, asking staff to self-assess technology skills. We ask teachers to clearly state what tools, professional development, and other assistance they need to fully implement each area of the curriculum. We will use this survey to monitor our progress.

#### **How will we sustain focus and momentum?**

As stated earlier, our TCC meets at least once per month. A standing agenda item is our technology plan. We discuss what action plans are up for review, and determine how to achieve these. The calendar of action plans by completion dates is extremely helpful in keeping us focused. We know ahead of time which action plans are in need of review.

We will continue to deliver professional development through coaching sessions on a day-to-day basis, as well as 1/2 day inservice opportunities that correlate with the curricular area that is up for review.

We will also do a needs-assessment to find out what areas of the curriculum need intervention. By using the needs assessment results, the workshop evaluations, informal observation, the Beta Survey results, and the Ohio Achievement results, the team should be able to determine what our district needs are and focus any interventions/modifications.

## Technology Policy, Leadership and Administration

### 3.1 Analyzing District Education Technology Policies

**Awareness** - Policy is not in place; little or no understanding of importance of policy

**Adoption** - Traditional policies are in place; lack of consistent use

**Exploration** - New/updated policies are being researched

**Transformation** - Policies support high performing learning environments

	Where are we now?	Where do we want to go?
A. Electronic network linking district with other stakeholders for information exchange, collaboration and distance education	Exploration	Transformation
B. District wide program providing data or administrative systems to schools (e.g., fiscal databases, student assessment results)	Exploration	Transformation
C. Technology-related facilities design, equipment and software	Exploration	Transformation
D. Technology acquisition and standards	Exploration	Transformation
E. Research and evaluation of educational technology initiatives	Exploration	Transformation
F. Development and dissemination of educational technology devices, applications and approaches	Exploration	Transformation
G. District funding for educational technology	Exploration	Transformation
H. Equity and access to technology	Exploration	Transformation

#### How do we get there?

The school district maintains a Continuous Improvement Plan. This plan is developed by a broadly based committee composed of staff representatives, administrators, and parents. The plan is revised on a two-year cycle. Each year, a monitoring committee gathers data on a bi-yearly format to monitor the goals and objectives of the plan. The data from the monitoring is used by the development team to revise the plan. Data regarding plan goals are shared with members of the staff and community via internal and external communications. This data is also used by the planning committee in revising the plan. The Board of Education adopts each revised plan. The district also has a Technology Coordinating Committee. This committee is composed of the Technology Resource Teachers from each level, members of the technology staff, and district administrators including the superintendent. The Technology Resource Committee is charged with the responsibility of developing the specific technology plan. The technology plan is integrated into the Continuous Improvement Plan. This program adds a comprehensive set of goals and objectives for the district. The Continuous Improvement Plan and the Technology Plan are directed to enhance technology use and include professional development goals, as well as action plans for accomplishing the various technology integration goals. These plans are designed so they are an integral part of the district administration and governance. Membership in the various teams is rotated to assure broad-based participation. The results of the structured reviews are shared, both internally and externally. This provides an open process for regular review, updating, monitoring, and adjusting of technology goals.

#### How do we know we are getting there?

The monitoring of the district plan is done on two levels. The Continuous Improvement Plan is formally monitored by a monitoring committee twice each year. This process is enhanced by the use of an internal and an external facilitator. Data on each of the goals is gathered and a report published. The district Technology Coordinating Committee meets on a monthly basis. Implementation of the Technology Plan is placed on the agenda each month. This data is used by the Technology Coordinating Committee and is shared with the district Continuous Improvement Team. The milestones and monitoring points for both the Continuous Improvement Plan and the Technology Plan are built into the goals as the plan is developed.

#### How do we sustain the focus and momentum?

The Continuous Improvement Development Committee and Monitoring Committee, as well as the Technology Coordinating Committee, are all standing groups with a history in the school system. They are supported by school district resources of time and materials. Reports are made regularly to the Board of Education and to the community. This process is seen in the district as a way to continue to grow and develop the district.

### 3.2 Analyzing District Leadership

**Awareness** - These administrators do not use technology. An expectation to use technology with students and staff is not expressed nor do the administrators support the staff in the use of technology.

**Adoption** - Administrators have access to technology but don't use it on a comprehensive basis. Educators in the building are expected to use the technology but not in a powerful way to improve student achievement. Leaders support staff in developing technology skills.

**Exploration** - Leaders encourage and support educators in the use of technology, but the use may not be pervasive throughout the system. Administrators use technology and see some benefit.

**Transformation** - Leadership provides strong vision encompassing all aspects of educational technology. Technology is vital to administrators and is utilized in innovative ways on a daily basis. Administrators fully understand how to use the tools effectively in the classroom and to manage education.

	Where are we now?	Where do we want to go?
A. Instructional leadership, assessment and curriculum	Exploration	Transformation
B. Competencies/Standards (e.g. ISTE NETS-A)	Exploration	Transformation
C. Advocacy for technology	Exploration	Transformation
D. Measures and accountability for effective use	Exploration	Transformation
E. Role model in the use of technology	Exploration	Transformation
F. Professional development	Exploration	Transformation
G. Support for educational technology	Exploration	Transformation
H. Professional practice	Exploration	Transformation

#### How do we get there?

1. Technology has been integrated into district operations and into the instructional program. Administrators are provided access to technology and are expected to use technology in the operation of the district, and to lead the technology integration in the instructional program. The district's Continuous Improvement Plan has technology goals in two basic areas. First, in the operational aspects of the school district, particularly with regard to internal and external communications. Second, to continue to integrate and assess technology standards into the instructional program.

Technology is an integral part of the day-to-day operation of the schools. The district has moved forward in its goal to significantly reduce the use of paper. Meetings are noticed and scheduled via electronic mail, and electronic copies of agendas and minutes maintained. The district website is used as a repository for almost all of the forms regularly used in the day-to-day operations. These can be downloaded or completed electronically. The district's various courses of study are available electronically, as well as sample lesson plans and assessment items. The district website is also linked to the state instructional management site. Administrators communicate with staff members via email, and paper bulletins have been eliminated. The district also extensively uses electronic communications with parents. The district website contains all the pertinent school information, including lunch menus, calendars, as well as forms associated with school attendance, Board of Education minutes, and Board of Education policies. Teachers are supported in creating website that provide access for assignments and current grades. Administrators are expected to model the use of this technology in communications, both internally and externally.

With regard to the instructional program, the district technology coordinating committee assists each of the various curriculum committees to integrate technology standards into the curriculum review process. Administrators participate in this activity. Administrators are responsible for supervising the program and assuring that all of the standards, including technology, are being implemented and assessed on a regular basis in the classroom.

Administrators' role in implementing technology has been supported in two ways. First, through job-embedded professional development. The district employs a director of technology, two technicians, and three technology resource teachers. These individuals are responsible for helping administrators develop the skills necessary to implement any specific technology initiative. For example, the district recently implemented a Safety Training database. This provides an electronic means of monitoring the safety training in various areas of all employees. The implementation was supported by a professional development opportunity in each building.

Members of the administrative staff have also been encouraged to attend professional development opportunities offered by professional organizations. Each eligible administrator has taken the advanced e-Tech training qualifying him or her for a laptop computer. Administrators have also attended the e-Tech Columbus conference and other conferences and activities by local organizations.

**How do we know we are getting there?**

The district has both a Continuous Improvement Plan (CIP) and a Technology Plan. Each of these plans contains goals and objectives with regard to technology use and extension. Each of the plans has a specific data gathering and monitoring mechanism. The CIP has a monitoring committee composed of representatives from each building, and meets twice per year. The group is facilitated by a member of the administrative staff and an external facilitator from Cleveland State University. The monitoring is done by the collection of data. The Technology Coordinating Committee monitors the implementation of the Technology Plan. This group meets monthly, and is composed of the Technology Resource Teachers as well as administrators and members of the Technology Department. The implementation of the Plan is on the agenda each month.

Examples of the types of data used to measure progress made are the following:

A district goal was to establish a Key Communicator distribution list. This list was monitored by the number of individuals on it, and the feedback received. This has proven to be an excellent communication means for sharing school information and updating key communicators on critical issues being addressed in the district. Another goal this past year was to update the district's web page. Focus groups of internal and external users of the website were formed. These users were asked to review sites of other school districts as well as the Westlake school district site. Their feedback was gathered in a summary form and shared with the Technology Coordinating Committee. This feedback was the basis of a restructuring of the district's web page. Surveys of staff members with regard to technology needs and initiatives were undertaken. One of these surveys resulted in a series of staff development activities on web design. A number of staff members indicated an interest in using the web for assignment and grade communication with parents. This resulted in staff development opportunities being established by the Technology Resource teachers at each level. E-Tech funds were used to support substitutes, and this activity resulted in a number of teacher web sites being established.

**How do we sustain the focus and momentum?**

3. Extending the use of technology is an integral part of the district's planning process. The district's Continuous Improvement Plan has the extension and integration of technology as one of the seven major goals of the school district. Specific action steps are established, with responsibilities, timelines and data. This plan is reviewed every two years. The district also has an ongoing Technology Coordinating Committee. This committee is composed of Technology Resource Teachers, the Superintendent, the Director of Curriculum and members of the Technology Department. The committee meets on a regular basis with agendas and minutes. One of the agenda items is the Technology Plan. The district's appropriations also have specific line items for technology. These include equipment to support the technology replacement schedule, software, and professional development. The Technology Plan is revised according to the State schedule. The Continuous Improvement Plan is monitored twice each year by a monitoring committee and revised every two years by a broadly based group. This process is facilitated by an outside observer to assist the district in critically evaluating data and the achievement of goals. Focus for professional development is job-embedded activities. The Technology Resource Teachers are responsible for coordinating professional development activities that relate to the district's instructional goals. Emphasis recently has been on website design and implementation, as well as assessment of the technology standards. District staff members also participate in e-Tech initiatives and the State conference.

### **3.3 Technology Leader/Coordinator Time Commitments**

	Where are we now?	Where do we want to go?
Strategic/Project/Action Planning	10%	20%
Acquisitions/Procurement	10%	5%
Deployment/Implementation of Technology	25%	15%
Maintenance & Repair	20%	5%
End-user Technical Support & Training	5%	10%
Curriculum Alignment & Instructional Integration	0%	0%
Fiscal Management/Grant Applications	5%	5%
Superintendent Cabinet/Executive/Board Meetings	5%	5%
Tech Staff Development & Management	10%	15%
Policy Development, Monitoring & Enforcement	5%	10%
Evaluating New/Emerging Technologies	5%	10%
Other	0%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>

### How will we get there?

1. The district will be employing a new Technology Coordinator for the 2006-2007 school year. The job description for this position has been revised to reflect a greater emphasis on strategic planning, professional development, and evaluating new technologies. The district also will be employing a new Director of Business Affairs who will be responsible for directly supervising the Technology Coordinator. One of the specific job targets for the new Director of Business Affairs will be to help the Technology Coordinator take a more active role in planning staff development and evaluating new technology. This will involve a reallocation of responsibilities and a clear definition of the work responsibilities of the district technicians and the Technology Resource Teachers. In addition, the district has a line item in the appropriations for staff development for the Technology Coordinator. Of particular concern is the capacity to view and evaluate new technology as they emerge. This will require visits outside the school district and attendance at state and national meetings.

### How will we know we are getting there?

The district has a structured evaluation process. This includes an evaluation checklist, as well as specific job targets. The job targets are supported with specific action plans, the type of data that will be gathered, and timelines. This system will be used to monitor the progress of the Technology Coordinator in accomplishing the goals with regard to increased strategic planning, reporting professional development, and evaluating new technology. The Director of Business Affairs will complete this evaluation. Also, the district has a Technology Coordinating Committee that will be involved in gathering data with regard to the accomplishment of technology goals. This committee meets regularly and gathers data with regard to district goals. The minutes of this committee are recorded and used as documentation for the implementation of the district Continuous Improvement Plan and the Technology Plan.

### How will we sustain focus and momentum?

As indicated above the district has a structured evaluation process that facilitates the establishment of specific job goals that are related to the district Continuous Improvement Plan. Written evaluations are based on the gathering of data relating to the specific job goals. This enables the goals to be refined and modified as necessary. The technology coordinator is a part of the district administrative structure and fully participates in district planning activities. This includes involvement in the development of the continuous improvement plan and participation on the district administrative council and superintendent's cabinet. This provides both formal and informal linkages to the district operation and support for the technology coordinator to achieve district technology goals. In addition the district has allocated funds for professional development of the technology coordinator.

## Technology Infrastructure, Management and Support

### 4.1 Networking, Internet & Telecommunications

#### "Where are we now?"

**None** - This technology does not currently reside on the network.

**Some** - There are pieces of this technology residing on the network. It does not exist in all buildings or only in places.

**Many** - This technology is pervasive throughout the district and/or building.

#### "Where do we want to go?"

**Decrease** - We plan to decrease this technology on the network.

**No Change** - We plan to maintain the level of technology on the network.

**Researching** - We are investigating if we want to implement this technology on the network or if we want to increase or decrease this technology on the network.

**Increase** - We plan to increase this technology on the network.

	Where are we now?	Where do we want to go?
Thin/Network Clients	Many	Increase
File and Print Sharing	Many	Increase
Internet Traffic	Many	Increase
Video Conferencing (IP)	None	Researching
Video Conferencing (ATM)	None	Researching
Video On-Demand (local building/district server)	None	Researching
Video Streaming (Internet)	Some	Researching
Voice Communications - Voice over IP	None	Researching
Voice Communications - Centrex/PBX	None	Researching
Remote Access (Dial-up/VPN) to School Resources	Many	Increase
Wireless	Many	Increase
Email	Many	Increase
Enterprise/Shared Applications (e.g., online grade book)	Many	Increase

	What is the current impact?
LAN Bandwidth	Increase
WAN Bandwidth	No Changes
Internet Bandwidth	Increase
Telephone Circuits	No Changes

#### How will we get there?

We are planning to replace our current Cisco Switches with those of more capacity to increase bandwidth to the desktop from 10/half to 100/full.

We are joining the LEECA Fiber project to allow us to increase the internet bandwidth available to the district as a whole.

#### How will we know we are getting there?

As the switches are replaced, the functionality of our equipment will increase. We will monitor usage to measure this functionality and keep records.

Available bandwidth to the district will be increased from our current two T-1 lines to fiber connection to LEECA. We will conduct surveys to measure staff input on the increased bandwidth. We will also monitor to see when or if the usage exceeds bandwidth.

#### How will we sustain focus and momentum?

We will conduct surveys to measure staff input on the increased bandwidth. We will also monitor to see when or if the usage exceeds bandwidth. Our District employs three full-time technology staff members and three full-time Technology Integration Specialists. Along with the Director of Curriculum and the Superintendent, this group will monitor whether or not our educational objectives are being met. We will do this by conducting surveys, informal observations, workshops, one-on-one professional development sessions, and monitoring usage. The Technology Coordinating Committee meets monthly to monitor the progress of our Technology Plan and to address any issues that may transpire.

## 4.2 Access to Technology

**None** - This technology does not exist in the building(s) and/or district.

**Some** - This technology is in the building(s) and district, but there are only a few in each location.

**Pervasive** - This technology is an integral part of the building(s) and district.

**Late Adopter** - Waiting until the technology is quite established in the field and fully tested.

**Middle Adopter** - Waiting until the first wave has been introduced into the school setting.

**Early Adopter** - One of the first settings to pilot and test the technology.

	Where are we now?	Where do we want to go?
Teacher to Computer Ratio (1:n)	1:1	1:1
Student to Computer Ratio (1:n)	1:4	1:5
Peripherals (e.g. scanner, digital camera)	Pervasive	Pervasive
Emerging Technologies	Middle adopter	Early adopter
Assistive and adaptive hardware (e.g. Intellikeys, Alpha Smart) and specialized software	Pervasive	Pervasive

### How will we get there?

The Technology Coordinating Committee meets once per month to monitor the Technology Plan and to address any issues that may transpire. The Technology Department meets on a weekly basis to plan projects and implement strategies to maintain network reliability.

The Technology Coordinating Committee attends the Etech Ohio Conference every year to learn about emerging technologies. We also attend eLearning courses through ETech and PBS TeacherLine to keep up with the technological advances and encourage all staff to do so as well.

The Technology Integration Specialists discuss, plan, and implement professional development to all staff. For example, upon returning from the 2006 Etech Ohio Conference, the elementary Technology Integration Specialist introduced classroom blogs to the elementary staff through 2 workshops: "Writing Across the Curriculum". She then modeled lessons to 29 classrooms to get them started.

The next step will be to conduct an action research study of this emerging technology.

The TCC also discussed the use of Moodle in the district. With the purchase of a new Web server, we will now be able to pilot the use of this course management software within the district. Through the use of this software, we anticipate being able to conduct more professional development and hope to offer graduate credit through university partnerships.

### How will we know we are getting there?

The Technology Coordinating Committee meets once per month to monitor the Technology Plan and to address any issues that may transpire. The Technology Department meets on a weekly basis to plan projects and implement strategies to maintain network reliability.

Data will be collected via action research, informal observation, TIS Teacher Contact Database, and the establishment of classroom blogs and Web pages.

### How will we sustain focus and momentum?

The Technology Coordinating Committee meets once per month to monitor the Technology Plan and to address any issues that may transpire. The Technology Department meets on a weekly basis to plan projects and implement strategies to maintain network reliability.

The TCC is dedicated to ensure network reliability, security, stability, and support for teaching and learning. In doing so, we will be creating action plans to keep our district on task throughout the school year.

## 4.3 Stakeholder Access to Educational Information & Applications

1. **None:** Our organization does not have this type of electronic system. We maintain paper records.

2. **Minimal:** Our organization utilizes some electronic documents to manage these systems and processes such as spreadsheets or word processor.
3. **Adequate:** Our organization uses database software to manage these systems and documents.
4. **Advanced:** Our organization shares this type of information using industry-adopted data standards and practices (e.g. SIF, XML-Web Services or EDI).

#### Tool

	Where are we now?	Where do we want to go?
Student Information Services	2 - Minimal	3 - Adequate
Instructional Applications	2 - Minimal	3 - Adequate
Data Analysis & Reporting	2 - Minimal	4 - Advanced
Grade Book	4 - Advanced	4 - Advanced
Library Automation	4 - Advanced	4 - Advanced
Facilities Management	3 - Adequate	4 - Advanced
Voice Telephony	3 - Adequate	3 - Adequate
Human Resources & Financial Management	3 - Adequate	4 - Advanced
Network Account Management	3 - Adequate	4 - Advanced
Transportation	2 - Minimal	3 - Adequate
Food Services	2 - Minimal	3 - Adequate

#### How will we get there?

The Technology Integration Specialists will be meeting with the food services support staff to conduct professional development on data entry into the food service order system.

All staff has been trained how to submit a support ticket for both maintenance and technology issues.

The district created a committee to investigate data analysis programs. We will be meeting to discuss the pros and cons of each system and deciding on our next direction. We will also be monitoring the Ohio Department of Educations new Student Data Analysis reporting system.

#### How will we know we are getting there?

The TCC will be meeting to create action plans to determine the effectiveness of new/enhanced system implementations. We will also be conducting surveys, informally observing, and monitoring usage.

A sample indicator would be:

Teacher productivity and usage will increase upon implementation of a data analysis reporting system.

#### How will we sustain the focus and momentum?

The TCC is committed to creating and maintaining support from university partnerships and community businesses.

The TIS's will continue to conduct professional development to staff on a daily basis and will keep a database of teacher contact. We will continue to meet monthly to monitor progress and discuss any issues that may transpire.

Integration workshops will be conducted throughout the school year to introduce emerging technology and maintain/increase technology integration throughout the curriculum.

The curriculum committees will continue to work with the TIS to incorporate the TACS into the courses of study.

## 4.4 Educational Software

**Never** - When selecting educational software, this process never occurs.

**Rarely** - When selecting educational software, occasionally this process is followed.

**Sometimes** - When selecting educational software, we typically follow and/or incorporate this process.

**Always** - When selecting educational software, this process is always followed and/or incorporated.

#### Selection Processes

	Where are we now?	Where do we want to go?
Requirements gathering, feature/fit analysis to goal	Sometimes	Always
Professional development planning for end users and support personnel	Sometimes	Always
Criteria for evaluation developed - including alignment to ACS and curriculum	Sometimes	Sometimes
Evaluation of demo copies	Rarely	Sometimes
Implementation pilots	Rarely	Sometimes
Replacement cycle (upgrade, retire, new)	Rarely	Sometimes
System requirements / technical and operational support	Sometimes	Always

### How will we get there?

In order to facilitate the procurement of educational software and overcome the barriers listed above, the Technology Department has established a procedure for software requests. This procedure is for staff to recommend software for acquisition. Requests are evaluated by the Curriculum Department for alignment to ACS and district curriculum. The requested software is then evaluated for supportability as well as functionality by the technology department for usage within our environment. Tech Integration Specialists are responsible for end-user training and Professional Development.

Pilot programs will be managed by the Technology Coordinator and Curriculum Director and a schedule will be established for pilot programs to include feedback, evaluation of the effectiveness of the software and recommendation for implementation or not in the classroom. The pilot programs will reduce the likelihood of the district purchasing software that is not useful.

### How will we know we are getting there?

Feedback from staff on the software acquisition process will be solicited and addressed each time a software package is requested. A review of the turn-around time for requests will be performed to streamline the process.

After a pilot for a program is completed, members of the pilot will be surveyed with regard to the process and recommendations applied to further pilots as necessary.

### How will we sustain focus and momentum?

Selection of software packages will be selected that last longer than the text that they are delivered with. We will seek packages that are web-based and perform as an instructional tool in their own right and not as a minor supplement to a textbook. Software selection will be integrated into the materials selection process. Software costs both for initial purchase and ongoing maintenance will be included in the materials acquisition budget. This will enable the district to control expenditures for materials.

## 4.5 Security

1. **None:** Organization does not have any of these policies or securities in place.
2. **Minimal:** The basic functions are present, but not all layers are addressed.
3. **Adequate:** The basic functions are present and all layers are addressed and integrated.
4. **Advanced:** The basic functions are present, all layers are addressed and integrated, and proactive monitoring with security response and forensic log analysis procedures are in place.

	Where are we now?	Where do we want to go?
AUP (Acceptable Use Policy)	Yes	Yes
User Account management and network authentication policies	3 - Adequate	4 - Advanced
Security zones	2 - Minimal	4 - Advanced
Wireless network security policies	2 - Minimal	3 - Adequate
Central log mechanism and review policy	2 - Minimal	4 - Advanced
Incident response procedures	3 - Adequate	4 - Advanced
Network security	3 - Adequate	4 - Advanced
Host Security	3 - Adequate	4 - Advanced
Data security / integrity	3 - Adequate	4 - Advanced
Anti-virus software	4 - Advanced	4 - Advanced
Spyware	3 - Adequate	4 - Advanced
Firewall	4 - Advanced	4 - Advanced
Filtering	3 - Adequate	3 - Adequate

### How will we get there?

Westlake takes security very seriously and currently has many security measures in place; however, we are always looking for ways to improve.

The Technology Department will continue to improve its understanding of group policies and how these can assist in providing users with appropriate access to network resources. The current use of individual user accounts is expanding to include students at Grades 5 and 6.

There are currently plans to segment the network at the Cisco switch level to isolate main office and administrative computers in order to prevent remote access to them from student classroom and lab computers, making them less vulnerable to attacks from our internal users. This is a programming task, which will be performed by Bailey Communications.

Wireless security is currently in the process of being addressed. A Blue Socket Authentication Appliance has been put into place and ports on the Cisco switches have been identified and routed through that appliance. Wireless Access Points will be permanently installed on those specific ports and configured with encryption, preventing non-WCS wireless traffic from accessing the school network.

Attention to system event log files on the main servers in the past has been predominantly reactive. A baseline log will be established prior to the 2006-2007 school year to which future logs can be compared. A schedule will be established and the duty of monitoring will be assigned to appropriate Technology Department staff. Further investigation into available software for ease in reviewing data will be performed.

The current network outage procedures will be reviewed and revised as necessary prior to the 2006-2007 school year. The new procedures will be disseminated to all staff by the Technology Coordinator and addressed by the building principals at staff meetings two times per school year.

The district emergency technology procedures will be reviewed annually, amended as needed, and disseminated to all Technology Department staff and appropriate administrators.

We will continue our maintenance agreement with Bailey Communications for our backbone and firewall to keep all equipment as up-to-date as possible. Technology staff will receive further training to adequately monitor activity through the district's firewall.

In order to reduce district bandwidth usage and to force deployment of Windows Service Packs and Security Updates, the technology department will implement the use of WSUS.

We are currently running a weekly full backup of all district data, daily incremental backups of all staff data and twice daily incremental backups of all Treasurer Department data. Current backup data retention is approximately three days. The Technology staff will improve their knowledge of the backup software and improve the backup data retention time to a minimum of two weeks.

Staff members need to develop a better understanding of network drive utilization and security. Technology Integration Specialists will aid in the instruction of staff members on best practices for maintaining online grade books and data storage, as well as backup of important documentation and communications in compliance with FERPA.

Email retention policy has been disseminated and will be reviewed at the start of the 2006-2007 school year. Users have been instructed to use the Outlook Mail Archiving process. A procedure will be put into place to secure the mail archives on a district level to a secure location.

The district currently utilizes server-based management of Anti-virus and spyware applications for deployment

and updates, and will continue with this practice. Group policies have been established to ensure installation for all client computers.

The district currently subscribes to LEECA's N2H2 content filter. Additional content filtering will be continued and expanded on our district firewall. There is a provision for district staff to initiate an override to gain access to a site.

#### **How will we know we are getting there?**

Test user accounts will be created and policies will be applied to these prior to application on a district group level. Feedback from staff will be solicited bi-annually to evaluate functionality at the end user level.

Test bed computers will be used to attempt access to main office and administrative computers. Administrative and main office users will be asked to report of any suspicious activity on their computers.

Wireless non-domain test computers will be user to attempt to gain access to the network. Tests will be performed twice per year to ensure continued lockdown. Blue Socket log files will also be reviewed monthly for failed connection attempts.

Weekly Technology staff meeting agenda will add a network status report, to include a summary of the log files for the week, any problems found and how they were resolved.

Reports from Bailey Communications will ensure updates and scheduled maintenance are performed on switches and firewall in compliance with maintenance contract.

Anti-virus, Anti-spyware, and WSUS consoles will report on successes and failures of updates being sent to computers. Failures will be addressed as needed.

Weekly checks will be performed to verify ability to restore data from backups. The backup console reports statistics of operations performed and restoration dates available. If necessary, increase in backup capacity will be addressed.

Periodic checks to blocked sites will be performed to verify content filtering is in place and functional. Non-functionality of N2H2 will be reported to LEECA. Non-functionality of district firewall will be addressed and reported to Bailey Communications if necessary.

#### **How will we sustain the focus and momentum?**

Any security policies or changes within those policies will be disseminated to building principals and Technology Integration Specialists, who will be responsible for end-user education. The technology security policies and acceptable use agreements are included in the district Staff handbook. This hand book is distributed and reviewed with each staff member at the beginning of the school year. In addition each school has a Board approved student handbook. The acceptable use policy and security requirements are included in these handbooks.

The district has an active parent education group. This group has conducted and will continue to conduct parent training on security issues.

The Technology Department will provide a means of reporting future security issues via Help Desk system.

## **4.6 Technology Support and Management**

### **Support Ratios (1:n)**

	<b>Where are we now? (1:n)</b>	<b>Where do we want to go? (1:n)</b>
Support Staff to Students	1:1250	1:1250
Support Staff to Teachers	1:100	1:100
Support Staff to Computers	1:400	1:400
Support Staff to Buildings	1:3	1:3

	Where are we now?	Where do we want to go?
Average Response Time (Days)	2	1
Service Level Agreement (SLA)	No	No
Full-time technology coordinator/director	Yes	Yes

### How will we get there?

We will continue to utilize the Technology Help Desk system as the main method for users to request assistance and encourage its use by first addressing issues submitted through the Help Desk.

Technology Integration Specialists will continue to further educate staff and students on how to help themselves thus resulting in end-users that are more technically able to solve minor problems.

We will continue to expand the online Help Pages available to end-users and continue to reference these pages to enable the users to seek them out first to try to help themselves thus freeing up support staff for addressing more major problems.

We will continue to offer Professional Development of technical skills.

### How will we know we are getting there?

As staff members become more technically savvy and use of the online Help Pages increases, the number of Help Desk tickets should decrease. A review of Help Desk ticket initial response times and ticket completion times should decrease, and the types of tickets should shift from end-user issues to more complex technical repairs.

Staff members will be surveyed twice annually regarding their use of the online Help Pages and Help Desk system. The technology resources teachers at each level have frequent formal and informal contact with teachers. They regularly address support issues.

Trend analysis will be performed on Help Desk ticket history.

### How will we sustain focus and momentum?

We will encourage Technology staff to gain stronger skill sets and to decrease reliance on outside contractors on major systems. We will continue to subscribe to the Help Desk system and fully utilize its capabilities with regard to asset management and repair tracking. We will continue to expand the online Help Pages based on requests made from end users and on common end-user issues, as well as provide more effective ability to search the online Help Pages. The technology resource staff will continue to evaluate effectiveness of technology support.

## 4.7 Total Cost of Ownership

**None** - This factor is not accounted for in the cost analysis.

**Some** - This factor has cursory consideration but is not a primary decision driver.

**More** - There is deliberate consideration for this factor, but it may not always be a primary decision driver.

**Extensive** - This factor is always considered in cost analysis and is a primary decision driver.

### Process

	Where are we now?	Where do we want to go?
Vendor Relationships	More	More
Procurement Plan	More	More
Specifications/Requirements/Fits Analysis	Extensive	Extensive
Integration of donated time, materials or services	None	Some
Deployment/Installation plan	Some	More
Initial Training and Professional Development	More	More
Evaluation of current external support costs versus new purchase	Extensive	Extensive
Loss of institutional knowledge for replaced systems	Some	Some
Phase Out/Replacement cycle	None	More

Disposal costs	None	None
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### How will we get there?

We currently have established vendor relationships with a group of vendors who have historically provided materials and services at a lower rate than others. We periodically compare these vendors' prices with others providing similar products and services.

For several of our main systems, we continue an exclusive relationship with specific vendors due to their expertise with our environment and infrastructure.

We have entered into service contracts with specific vendors to extend the service life of some equipment rather than replacement in an effort to lower the TCO of these items, and will continue to investigate that option on other equipment.

We continually perform needs analysis for specialized applications and will consider reallocation of resources to avoid unnecessary spending.

Our district openly encourages donations from the community of time, materials and resources, and will plan to aggressively solicit community vendors and businesses with the assistance of our Communications Department.

We have recently begun using formal project management for the deployment and installation of new resources, which streamlines the process and ensures that all considerations are addressed.

When implementing new software or complex systems, we routinely build in training time with vendors providing the new resources, so that we are self-sufficient or have in-house experts from which other staff members can receive training.

We will offer a web-development course at the high school during the 2006-2007 school year and will use students to assist in the maintenance of several web pages on the district's web site.

Prior to repair of older systems, we compare the replacement cost to the projected cost of repair and estimated end of life, and base decisions on this data.

We have no plans to replace old equipment with systems that are dissimilar. Any loss of knowledge is thus minimized, but addressed within the scope of the project when necessary.

We currently do not have a Phase Out/Replacement Cycle established in the district. It has become evident that it is a need that will be addressed by the Technology Coordinator, Superintendent and Director of Business Affairs. The district does not have a permanent improvement fund and therefore must use the general fund for all replacements. Equipment is phased out and replaced as funds are available. There is a strong commitment in the district's Continuous Improvement Plan and by the Board to maintain technology in as strong a situation as possible.

### How will we know we are getting there?

The Technology Department will be required to accurately input data into the Help Desk system with regard to parts and labor in order to generate useful reports necessary to evaluate maintenance costs on various systems. These reports will be analyzed on a quarterly basis to ensure efficiency and identify recurring issues that may need to be evaluated.

The district will annually compare expenditures to outside technical contractors and, with the increase in professional development of the Technology staff, should see a decrease in this line item.

In making all expenditures the district does a cost benefit analysis of alternative expenditures and pay-back times for capital costs. This analysis will be maintained.

There should be an evident shift in the Technology budget from support expenditures, freeing up moneys for the acquisition of new equipment or R&D/pilots for emerging technologies.

### How will we sustain focus and momentum?

In order to continue to incorporate TCO when dealing with the technology infrastructure, the district will continue to encourage centralized management of technological purchasing to ensure all total costs are considered and that the technology to be purchased is necessary, has a direct impact on student achievement, and is in line with the district's Continuous Improvement Plan.

We will continue to include professional development for the end-users as well as for Technology Department support staff as a cost.

When making purchases, the Technology Department will more often seek out quotations from a variety of vendors to ensure the lowest possible acquisition cost for equipment and supplies is achieved.

The technology coordinator submits budget projections as a part of the district's developing a five year fiscal forecast. These projections must be supported as part of the appropriation process. This process involves all of the district program supervisors. The superintendent and the Board ultimately define expenditure levels and necessary modifications based on the rationale presented and the needs of the district.

We will annually update our list of community businesses and make concerted effort to establish partnerships to encourage the donation of time and resources.

## Budget and Planning

### 5.0 Budget

Budgeting is an essential component of any planning process. In Phases 1-4 of your tech plan, you have identified technology strategies that will help you 1) align with academic content standards, 2) administer your technology plan, and 3) implement your technology plan. Review Phases 1-4 and determine the costs associated with these technology strategies. In trying to effectively budget these technology costs, the planning team will need to eliminate redundancies and overlaps in the identification of technology components and phase in expenditures over the plan life-cycle.

	Where are we now?	Where do we want to go?			
	Current Fiscal Year	2006-2007	2007-2008	2008-2009	Total
Network/Telecommunications	24,125	24,125	24,125	24,125	72,375
Access to Technology	0	123,520	120,000	120,000	363,520
Shareholder Access to Educational Informational Applications	0	10,000	10,000	10,000	30,000
Educational Software	0	10,000	10,000	10,000	30,000
Security	0	0	0	0	0
Technology Staffing/Support	0	0	0	0	0
Professional Development	5,600	6,000	6,000	6,000	18,000
Consumables	10,000	10,000	10,000	10,000	30,000
Additional	0	0	0	0	0
<b>Total</b>	<b>39,725</b>	<b>183,645</b>	<b>180,125</b>	<b>180,125</b>	

#### *Budget process details*

In the current fiscal year, we successfully passed an operating levy. During this school year, all non-essentials were eliminated from the budget. We are now in the process of re-establishing a budget for the 2006-2007 school year. The budget above is reflective of what we have been able to do in the past. We hope to maintain this level of access and increase where possible.

In the past, we have used our ERate funds for network maintenance. Bailey communications is the company we contracted with for this purpose. These funds are also used to pay for our T1 connections. Beginning the 2006-2007 school year, ERate funds will be designated for the LEECA Fiber Lease Program to upgrade our bandwidth.

We also receive \$3,000 per school building from the Ohio K12 Networking Program. We will continue to use those funds toward maintaining and improving our network and communications resources.

#### **How will we get there?**

The three year budget was developed by having the district technology coordinating committee identify and prioritize technology needs. The district superintendent and treasurer reviewed the district's five year fiscal forecast to determine the extent to which defined priorities could be supported.

The budget estimates are based on past experience and estimates from the district technology committee of the fiscal levels necessary to support defined priorities.

The estimated budget provides continuing resources for upgrading current computer technology in classrooms, maintaining software licensure/upgrades, and providing professional development.

## Appendix A - Additional Documents

Description	Name	Date Submitted
Tech Plan 2003-2006	TechPlanJan05.pdf	March 19, 2006