

Educational Technology Plan for Learning Without Limits a TRECA Academy 143305

School Years:

2010-11

2011-12

2012-13

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Pre-Planning

1.0 Establish Technology Planning Committee

Assistive Technology / Special Needs Coordinator
Curriculum Coordinator
Senior Manager
Chief Instructional Officer
Superintendent
Teacher
Technology Coordinator
Technology Support
Treasurer

Approvers:

Scott Armstrong (Treasurer)
Mike Carder (Superintendent)
Matthew Tillett (Technology Coordinator/Director)
Dan Foss (Technology Coordinator/Director)

1.1 Overview of TPT Planning Framework

eTech Ohio's Technology Planning Tool, 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 five 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

To what goals and strategies does your current plan commit to advance the use of technology to enhance teaching and learning? Are any of these goals no longer relevant? What goals and strategies were met, and to what degree of success?

Learning Without Limits, A TRECA Academy is an innovative, site-based alternative for students who are seeking a customized and focused education that is not available in a conventional school environment. The program is not directed at one group of students, but is an attempt to enable a variety of students to pursue their passion while completing their high school diploma. Learning Without Limits, which is a cooperative effort between the TRECA and the Fordham Foundation, uses technology and other innovative tools to reach students who have a desire for, and whose education can be optimized by, a customized educational program. The program is assembled from among the varied learning opportunities offered by Learning Without Limits, based upon the individual student's needs and preferences. Learning Without Limits offers a team approach that includes collaboration with parents, community resources, and the educational team. Multiple assessments are used to determine student needs and measure progress. Learning Without Limits accommodates students who may be currently functioning outside the regular public school setting, including those whose families have previously preferred a home schooling environment.

Developing a school around the passion of the students, creating flexible schedules, supporting social interactions with peers, the ability to take part in flex credit options, based at an onsite facility where students can get individual support in curricular areas, has become the foundation of Learning Without Limits. Learning Without Limits, takes into account that student's life outside of school influences their education. Therefore, we have developed a school focusing on the passion of each student with a mixture of onsite, offsite, and internships learning opportunities. Learning Without Limits has witness the success of students participation at school due to flexibility and self driven curriculum. With the support of the Learning Facilitators the students are able to meet and accomplish weekly, monthly, and yearly academic goals. Learning Without Limits believes that every student has the right to follow their passion while completing their high school education.

The use of wireless devices and current social media tools has quickly become a means for student communication, coursework completion and interaction between students, staff and parents on a 24/7 basis. Being mobile is critical to the success of students defining their independent learning plans that revolve around their life passions. Combining the traditional onsite support with the mobile technology tools captures student interest, enables increased communication and unlimited access to academic resources. Incorporating the every changing technical resource is both a challenge and a critical priority for LWL students and staff.

Learning Without Limits is a new Charter School, its charter was signed in May of 2010. LWL began offering classes on September 30, 2010. As a result no historical data exists and baseline data is being collected in this first year of operation.

Please address the following as you plan for the next three years. Be sure to record your conclusions for reflection. Were there any unexpected outcomes or new needs that emerged? Which goals and strategies still need to be addressed? How will the technology committee address them?

Learning Without Limits will continue to evaluate the use of technology in all aspects of the school's program. Baseline data is being collected in this first year of operation. The technology plan below outlines the strategies and scope of this endeavor.

1.3 Vision / Mission

A. Vision

The mission of LWL is to provide excellent and flexible educational options to support students in the learning process as they pursue their passions.

B. Mission

Learning Without Limits operates on the belief that the target student population can best be served through educational offerings that include traditional classroom-based instruction and non-traditional learning experiences that are selected on the basis of each particular student's educational needs and interests, and the student's past experiences and levels of academic achievement.

Curriculum Alignment & Instructional Integration

2.1 How are you making Ohio’s technology standards an official part of your district's curriculum?

This section is a prerequisite for Sections 2.2 through 2.8 and should be considered as a separate task with a different goal. The goal of this section is to describe how your district is including Ohio Technology Standards into the district’s curriculum. Regardless whether your district calls it a "Graded Course of Study," "Curriculum Map," or something else – all districts have some form of documentation that spells out what is expected to be taught. The content standards for technology should be written into these documents so they are interwoven with the content standards for math, science etc. For Educational Service Centers (ESCs), please identify how you are assisting your contracted schools in aligning their curriculum to technology standards. The academic content standards, known as curriculum, describe what to teach. Technology standards should be embedded within the content from other disciplines in order to deliver the curriculum in a highly effective and motivational way.

Using the grid below, please indicate the status of your district's efforts to embed Ohio's Technology Standards into the content standards for each curricular area. In the left column, "Where Are We Now?," please select "Not Started," "In Progress," or "Complete" for each curriculum area listed. In the right column, "Where Do We Want To Go?" please select the school year you completed or plan to complete this process.

	Where are we now?	Where do we want to go?
English Language Arts	In Progress	2012-13
Fine Arts	In Progress	2012-13
Foreign Language	In Progress	2012-13
Mathematics	In Progress	2012-13
Science	In Progress	2012-13
Social Studies	In Progress	2012-13
Technology (specific course)	In Progress	2012-13
Other Content Areas		

How will we get there?

All courses are being revised with assessments, both formative and summative, which are aligned to the state standards and enhance student progression and achievement. A curriculum team was implemented to provide continual oversight of this process. They analyze each course to identify where technology benchmarks / indicators already exist, where they need to be added and how their presentations need to be enhanced. Use of 21st century technology applications such as podcasts, blogs and wikis will continue to be embedded throughout the curriculum to enhance student learning.

How will we know we're getting there?

Student achievement and progress, along with proper alignment to standards, will be measured both through our internal short-cycle and summative assessments as well as through state achievement tests. We will use the spring state testing to establish a baseline of student progress in order to measure growth based on future testing cycles. The curriculum team is responsible for the review of a course's alignment to state content and technology standards as each course is revised.

How will we sustain focus and momentum?

Time will be set aside during regular staff meetings, both before and during implementation, for ongoing training on skills and knowledge needed to facilitate course revisions, including greater utilization of ANGEL, the learning management system used as the classroom environment for our courses. We will revise our online courses/lessons according to a predetermined format that will include specific short-cycle and summative assessments. Each lesson will be introduced with a review of previous lessons and objectives/purpose for the current lessons which reflect the state standards.

2.2 How will you be using technology to improve teaching and learning in English / Language Arts?

The goal of section 2.2 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in English/Language Arts at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade English/Language Arts teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the English/Language Arts instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Current Levels of Technology Integration in English/Language Arts

1.0 Entry - Learn the basics of using 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 technology as needed.

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

	Where are we now?	Where do we want to go?
Pre-K	N/A	N/A
K-2	N/A	N/A
3-4	N/A	N/A
5-7	N/A	N/A
8-10	4	5
11-12	4	5

How will we get there?

As a school focused on providing individualized learning plans, students work with technology in all aspects of their educational experience, the use of technology is a pre-requisite for attending. Our goal in language arts is for students not only to use the various technology tools available but also to incorporate those tools seamlessly into their daily work. In order to facilitate student and teacher growth in language arts from Adaptation to Appropriation and/or Invention, we will work with online teachers to provide students with learning opportunities to move on to higher-level thinking skills and to write lessons that encourage students to engage with their learning. Many of our course lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use available technology resources. Students and teachers alike must learn to navigate and utilize the features of ANGEL, our learning management system. As we move toward Appropriation and Invention, we will continue to look for technology resources which promote attainment of those highest of ACOT levels.

Learning Without Limits works closely with the Professional Development team of TRECA. Our liaison provides regular in-service opportunities for the staff. A portfolio of applications and activities is maintained by each teacher which shows how these standards are being implemented. Face to face and online courses are available for staff to enhance their skills and allow for implementation into the language arts curriculum. A database documenting staff participation in these various opportunities is maintained by the TRECA PD staff. Each student and all staff are provided with a computer workstation or other appropriate communication devices that facilitate the goals and targets of the implementation of the technology standards for each subject area.

How will we know we're getting there?

All of our courses, 9-12, have built into them "Bodies of Evidence (BoE)," assessments which provide teachers with information regarding student progress throughout the course. Many of these BoEs require students to utilize various technology software, hardware, or web sites as they demonstrate their level of qualification to move on in the course (i.e., is there enough evidence to "convict" the student of understanding?). In these demonstrations, students not only show their understanding of the content of the course but their ability to use and manipulate the technology successfully.

We will also use the results of state OGT testing to provide teachers and administrators with indication of student progress in language arts, and, in so doing, to determine whether the use of technology, as configured in the language arts courses, is effectively assisting students to achieve and move to the next level of coursework.

With the advancement of new technologies and applications, LWL is considering the requirement of high speed wireless connectivity for all students. This has the potential to open up new opportunities to access rich multimedia content that is dependent on larger inbound and outbound bandwidth.

How will we sustain focus and momentum?

We believe technology is the key to our student's future and are committed to providing an ongoing search for technological solutions to support student achievement in language arts; by the very nature of a school based on individual learning plans, we are bound to search for the best practices in educational technology. Some specific areas upon which we will focus are:

We continue to refine our learning management system to enable teachers to track student work on an individual basis. This allows teachers to facilitate students' timely progress through courses in an efficient and effective manner. This also alerts teachers when students are falling behind, struggling to make progress and/or have barriers to learning.

There will be continuing professional development opportunities, some required and some optional, for teachers in the use of the management system and in training for new initiatives and resources. Specifically, we have designed a course through TRECA's Teacher Development Center which introduces the teacher to new technology required for the individualized education classroom. Completion of the course results in the creation of a technology portfolio which they will regularly enhance throughout the year. Such training is imperative for teachers in a customized school if both they and the students are to be successful.

2.3 How will you be using technology to improve teaching and learning in Fine Arts?

The goal of section 2.3 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Fine Arts at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Fine Arts teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only. Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Fine Arts instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Current Levels of Technology Integration in Fine Arts

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	N/A	N/A
9-12	3.5	5

How will we get there?

As a school focused on providing individualized learning plans, students work with technology in all aspects of their educational experience, the use of technology is a pre-requisite for attending. Our goal in Fine Arts is for students not only to use the various technology tools available but also to incorporate those tools seamlessly into their daily work. In order to facilitate student and teacher growth in language arts from Adaptation to Appropriation and/or Invention, we will work with online teachers to provide students with learning opportunities to move on to higher-level thinking skills and to write lessons that encourage students to engage with their learning. Many of our course lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use available technology resources. Students and teachers alike must learn to navigate and utilize the features of ANGEL, our learning management system. As we move toward Appropriation and Invention, we will continue to look for technology resources which promote attainment of those highest of ACOT levels.

Learning Without Limits works closely with the Professional Development team of TRECA. Our liaison provides regular in-service opportunities for the staff. A portfolio of applications and activities is maintained by each teacher which shows how these standards are being implemented. Face to face and online courses are available for staff to enhance their skills and allow for implementation into the language arts curriculum. A database documenting staff participation in these various opportunities is maintained by the TRECA PD staff. Each student and all staff are provided with a computer workstation or other appropriate communication devices that facilitate the goals and targets of the implementation of the technology standards for each subject area.

How will we know we're getting there?

All of our courses, 9-12, have built into them "Bodies of Evidence (BoE)," assessments that provide teachers with information regarding student progress throughout the course. Many of these BoEs require students to utilize various technology software, hardware, or web sites as they demonstrate their level of qualification to move on in the course (i.e., is there enough evidence to "convict" the student of understanding?). In these demonstrations, students not only show their understanding of the content of the course but their ability to use and manipulate the technology successfully. We will also use the results of state OGT testing to provide teachers and administrators with indication of student progress in language arts, and, in so doing, to determine whether the use of technology, as configured in the language arts courses, is effectively assisting students to achieve and move to the next level of coursework.

With the advancement of new technologies and applications, LWL is considering the requirement of high speed wireless connectivity for all students. This would open up new opportunities to access resources such as those with multimedia that requires larger bandwidth.

How will we sustain focus and momentum?

Ours is an ongoing search for technological solutions to support student achievement in fine arts; by the very nature of a school based on individual learning plans, we are bound to search for the best practices in educational technology that we can find. That said, there are some specific areas upon which we will focus.

We continue to refine our learning management system to enable teachers to track student work on an individual basis. This allows teachers to facilitate students' timely progress through courses in an efficient and effective manner. This also alerts teachers when students are falling behind, struggling to make progress and/or have barriers to learning.

There will be continuing professional development opportunities, some required and some optional, for teachers in the use of the management system and in training for new initiatives and resources. Specifically, we have designed a course through TRECA's Teacher Development Center which introduces the teacher to new technology required for the individualized education classroom. Completion of the course results in the creation of a technology portfolio which they will regularly enhance throughout the year. Such training is imperative for teachers in a customized school if both they and the students are to be successful.

2.4 How will you be using technology to improve teaching and learning in Foreign Language?

The goal of section 2.4 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Foreign Language at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Foreign Language teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Foreign Language instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Current Levels of Technology Integration in Foreign Language

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	N/A	N/A
9-12	3.5	5

How will we get there?

As a school focused on providing individualized learning plans, students work with technology in all aspects of their educational experience, the use of technology is a pre-requisite for attending. Our goal in Foreign Language is for students not only to use the various technology tools available but also to incorporate those tools seamlessly into their daily work. In order to facilitate student and teacher growth in language arts from Adaptation to Appropriation and/or Invention, we will work with online teachers to provide students with learning opportunities to move on to higher-level thinking skills and to write lessons that encourage students to engage with their learning. Many of our course lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use available technology resources. Students and teachers alike must learn to navigate and utilize the features of ANGEL, our learning management system. As we move toward Appropriation and Invention, we will continue to look for technology resources which promote attainment of those highest of ACOT levels.

Learning Without Limits works closely with the Professional Development team of TRECA. Our liaison provides regular in-service opportunities for the staff. A portfolio of applications and activities is maintained by each teacher which shows how these standards are being implemented. Face to face and online courses are available for staff to enhance their skills and allow for implementation into the language arts curriculum. A database documenting staff participation in these various opportunities is maintained by the TRECA PD staff. Each student and all staff are provided with a computer workstation or other appropriate communication devices that facilitate the goals and targets of the implementation of the technology standards for each subject area.

How will we know we're getting there?

All of our courses, 9-12, have built into them "Bodies of Evidence (BoE)," assessments that provide teachers with information regarding student progress throughout the course. Many of these BoEs require students to utilize various technology software, hardware, or web sites as they demonstrate their level of qualification to move on in the course (i.e., is there enough evidence to "convict" the student of understanding?). In these demonstrations, students not only show their understanding of the content of the course but their ability to use and manipulate the technology successfully.

We will also use the results of state OGT testing to provide teachers and administrators with indication of student progress in foreign language, and, in so doing, to determine whether the use of technology, as configured in the foreign language courses, is effectively assisting students to achieve and move to the next level of coursework.

With the advancement of new technologies and applications, LWL is considering the requirement of high speed wireless connectivity for all students. This would open up new opportunities to access resources such as those with multimedia that requires larger bandwidth.

How will we sustain focus and momentum?

Ours is an ongoing search for technological solutions to support student achievement in foreign language; by the very nature of a school based on individual learning plans, we are bound to search for the best practices in educational technology that we can find. That said, there are some specific areas upon which we will focus.

We continue to refine our learning management system to enable teachers to track student work on an individual basis. This allows teachers to facilitate students' timely progress through courses in an efficient and effective manner. This also alerts teachers when students are falling behind, struggling to make progress and/or have barriers to learning.

There will be continuing professional development opportunities, some required and some optional, for teachers in the use of the management system and in training for new initiatives and resources. Specifically, we have designed a course through TRECA's Teacher Development Center which introduces the teacher to new technology required for the individualized education classroom. Completion of the course results in the creation of a technology portfolio which they will regularly enhance throughout the year. Such training is imperative for teachers in a customized school if both they and the students are to be successful.

2.5 How will you be using technology to improve teaching and learning in Mathematics?

The goal of section 2.5 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Mathematics at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Mathematics teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Mathematics instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Current Levels of Technology Integration in Mathematics

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-2	N/A	N/A
3-4	N/A	N/A
5-7	N/A	N/A
8-10	3.5	5
11-12	3.5	5

How will we get there?

As a school focused on providing individualized learning plans, students work with technology in all aspects of their educational experience, the use of technology is a pre-requisite for attending. Our goal in Mathematics is for students not only to use the various technology tools available but also to incorporate those tools seamlessly into their daily work. In order to facilitate student and teacher growth in language arts from Adaptation to Appropriation and/or Invention, we will work with online teachers to provide students with learning opportunities to move on to higher-level thinking skills and to write lessons that encourage students to engage with their learning. Many of our course lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use available technology resources. Students and teachers alike must learn to navigate and utilize the features of ANGEL, our learning management system. As we move toward Appropriation and Invention, we will continue to look for technology resources which promote attainment of those highest of ACOT levels.

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How will we know we're getting there?

All of our courses, 9-12, have built into them "Bodies of Evidence (BoE)," assessments that provide teachers with information regarding student progress throughout the course. Many of these BoEs require students to utilize various technology software, hardware, or web sites as they demonstrate their level of qualification to move on in the course (i.e., is there enough evidence to "convict" the student of understanding?). In these demonstrations, students not only show their understanding of the content of the course but their ability to use and manipulate the technology successfully. We will also use the results of state OGT testing to provide teachers and administrators with indication of student progress in mathematics, and, in so doing, to determine whether the use of technology, as configured in the mathematics courses, is effectively assisting students to achieve and move to the next level of coursework. With the advancement of new technologies and applications, LWL is considering the requirement of high speed wireless connectivity for all students. This would open up new opportunities to access resources such as those with multimedia that requires larger bandwidth.

How will we sustain focus and momentum?

Ours is an ongoing search for technological solutions to support student achievement in mathematics; by the very nature of a school based on individual learning plans, we are bound to search for the best practices in educational technology that we can find. That said, there are some specific areas upon which we will focus. We continue to refine our learning management system to enable teachers to track student work on an individual basis. This allows teachers to facilitate students' timely progress through courses in an efficient and effective manner. This also alerts teachers when students are falling behind, struggling to make progress and/or have barriers to learning. There will be continuing professional development opportunities, some required and some optional, for teachers in the use of the management system and in training for new initiatives and resources. Specifically, we have designed a course through TRECA's Teacher Development Center which introduces the teacher to new technology required for the individualized education classroom. Completion of the course results in the creation of a technology portfolio which they will regularly enhance throughout the year. Such training is imperative for teachers in a customized school if both they and the students are to be successful.

2.6 How will you be using technology to improve teaching and learning in Science?

The goal of section 2.6 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Science at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Science teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Science instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Current Levels of Technology Integration in Science

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-2	N/A	N/A
3-4	N/A	N/A
5-7	N/A	N/A
8-10	3.5	5
11-12	3.5	5

How will we get there?

As a school focused on providing individualized learning plans, students work with technology in all aspects of their educational experience, the use of technology is a pre-requisite for attending. Our goal in Science is for students not only to use the various technology tools available but also to incorporate those tools seamlessly into their daily work. In order to facilitate student and teacher growth in language arts from Adaptation to Appropriation and/or Invention, we will work with online teachers to provide students with learning opportunities to move on to higher-level thinking skills and to write lessons that encourage students to engage with their learning. Many of our course lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use available technology resources. Students and teachers alike must learn to navigate and utilize the features of ANGEL, our learning management system. As we move toward Appropriation and Invention, we will continue to look for technology resources which promote attainment of those highest of ACOT levels.

Learning Without Limits works closely with the Professional Development team of TRECA. Our liaison provides regular in-service opportunities for the staff. A portfolio of applications and activities is maintained by each teacher which shows how these standards are being implemented. Face to face and online courses are available for staff to enhance their skills and allow for implementation into the language arts curriculum. A database documenting staff participation in these various opportunities is maintained by the TRECA PD staff. Each student and all staff are provided with a computer workstation or other appropriate communication devices that facilitate the goals and targets of the implementation of the technology standards for each subject area.

How will we know we're getting there?

All of our courses, 9-12, have built into them "Bodies of Evidence (BoE)," assessments that provide teachers with information regarding student progress throughout the course. Many of these BoEs require students to utilize various technology software, hardware, or web sites as they demonstrate their level of qualification to move on in the course (i.e., is there enough evidence to "convict" the student of understanding?). In these demonstrations, students not only show their understanding of the content of the course but their ability to use and manipulate the technology successfully.

We will also use the results of state OGT testing to provide teachers and administrators with indication of student progress in science, and, in so doing, to determine whether the use of technology, as configured in the science courses, is effectively assisting students to achieve and move to the next level of coursework.

With the advancement of new technologies and applications, LWL is considering the requirement of high speed wireless connectivity for all students. This would open up new opportunities to access resources such as those with multimedia that requires larger bandwidth.

How will we sustain focus and momentum?

Ours is an ongoing search for technological solutions to support student achievement in mathematics; by the very nature of a school based on individual learning plans, we are bound to search for the best practices in educational technology that we can find. That said, there are some specific areas upon which we will focus.

We continue to refine our learning management system to enable teachers to track student work on an individual basis. This allows teachers to facilitate students' timely progress through courses in an efficient and effective manner. This also alerts teachers when students are falling behind, struggling to make progress and/or have barriers to learning.

There will be continuing professional development opportunities, some required and some optional, for teachers in the use of the management system and in training for new initiatives and resources. Specifically, we have designed a course through TRECA's Teacher Development Center which introduces the teacher to new technology required for the individualized education classroom. Completion of the course results in the creation of a technology portfolio which they will regularly enhance throughout the year. Such training is imperative for teachers in a customized school if both they and the students are to be successful.

2.7 How will you be using technology to improve teaching and learning in Social Studies?

The goal of section 2.7 is to identify the major elements of your district's plans to use technology to enhance teaching and learning in Social Studies at the elementary, middle and secondary levels over the next three years.

The primary objective is that you provide a brief description of two or three broad-based practices being utilized by the majority of your district's teachers to use technology to improve teaching and learning at the elementary, middle and secondary levels. For example, if all or most of your fifth through seventh grade Social Studies teachers are requiring students to conduct internet research or produce multimedia presentations on a regular basis; this would qualify as a broad-based practice. But if only a fraction of your teachers are regularly using these tools in the classroom – do not portray it as a broad-based practice.

Please feel free to include information about significant technology integration practices which are, by nature, not broad-based. For example, if a high school science teacher is using simulation software to allow students to conduct virtual experiments which are too dangerous to replicate in the classroom or lab; please indicate this in the Science curriculum area at the high school level only.

Using the ACOT Scale and the grid below, indicate your school's current level of effective technology integration in the Social Studies instructional process, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Current Levels of Technology Integration in Social Studies

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-2	N/A	N/A
3-4	N/A	N/A
5-7	N/A	N/A
8-10	3.5	5
11-12	3.5	5

How will we get there?

As a school focused on providing individualized learning plans, students work with technology in all aspects of their educational experience, the use of technology is a pre-requisite for attending. Our goal in Social Studies is for students not only to use the various technology tools available but also to incorporate those tools seamlessly into their daily work. In order to facilitate student and teacher growth in language arts from Adaptation to Appropriation and/or Invention, we will work with online teachers to provide students with learning opportunities to move on to higher-level thinking skills and to write lessons that encourage students to engage with their learning. Many of our course lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use available technology resources. Students and teachers alike must learn to navigate and utilize the features of ANGEL, our learning management system. As we move toward Appropriation and Invention, we will continue to look for technology resources which promote attainment of those highest of ACOT levels.

Learning Without Limits works closely with the Professional Development team of TRECA. Our liaison provides regular in-service opportunities for the staff. A portfolio of applications and activities is maintained by each teacher which shows how these standards are being implemented. Face to face and online courses are available for staff to enhance their skills and allow for implementation into the language arts curriculum. A database documenting staff participation in these various opportunities is maintained by the TRECA PD staff. Each student and all staff are provided with a computer workstation or other appropriate communication devices that facilitate the goals and targets of the implementation of the technology standards for each subject area.

How will we know we're getting there?

All of our courses, 9-12, have built into them "Bodies of Evidence (BoE)," assessments that provide teachers with information regarding student progress throughout the course. Many of these BoEs require students to utilize various technology software, hardware, or web sites as they demonstrate their level of qualification to move on in the course (i.e., is there enough evidence to "convict" the student of understanding?). In these demonstrations, students not only show their understanding of the content of the course but their ability to use and manipulate the technology successfully.

We will also use the results of state OGT testing to provide teachers and administrators with indication of student progress in social studies, and, in so doing, to determine whether the use of technology, as configured in the social studies courses, is effectively assisting students to achieve and move to the next level of coursework.

With the advancement of new technologies and applications, LWL is considering the requirement of high speed wireless connectivity for all students. This would open up new opportunities to access resources such as those with multimedia that requires larger bandwidth.

How will we sustain focus and momentum?

Ours is an ongoing search for technological solutions to support student achievement in social studies; by the very nature of a school based on individual learning plans, we are bound to search for the best practices in educational technology that we can find. That said, there are some specific areas upon which we will focus.

We continue to refine our learning management system to enable teachers to track student work on an individual basis. This allows teachers to facilitate students' timely progress through courses in an efficient and effective manner. This also alerts teachers when students are falling behind, struggling to make progress and/or have barriers to learning.

There will be continuing professional development opportunities, some required and some optional, for teachers in the use of the management system and in training for new initiatives and resources. Specifically, we have designed a course through TRECA's Teacher Development Center which introduces the teacher to new technology required for the individualized education classroom. Completion of the course results in the creation of a technology portfolio which they will regularly enhance throughout the year. Such training is imperative for teachers in a customized school if both they and the students are to be successful.

2.8 How are you teaching students about technology itself?

The goal of Phase 2.8 is for district technology planning staff to describe your district's efforts to teach students what they need to know and be able to do in order to meet Ohio's technology content standards.

IMPORTANT NOTE: Phase 2.8 is about technology as its own academic content standard and focuses on specific technology courses. Phase 2.8 is the place to indicate what technology instruction you are offering at the elementary, middle and secondary levels. Examples of these "pure technology" courses would include, but are not limited to: career technology, library media, keyboarding, multi-media or digital video production, web page authoring, network administration, etc.

As you are considering how you will teach the technology academic content standards, consider reviewing your Comprehensive Continuous Improvement Plan (CCIP) goals and strategies.

Activity

Using the Apple Classroom of Tomorrow (ACOT) Scale and the grid below, indicate your school's current level of effective technology integration specifically concerning technology courses, as well as your target levels for improvement. If your responses fall between whole numbers, such as between 3.0 and 4.0, feel free to use .5 increments such as 3.5.

Instructional Integration

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Pre-K	N/A	N/A
K-2	N/A	N/A
3-4	N/A	N/A
5-7	N/A	N/A
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How will we get there?

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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	Transformation	Transformation
B. District wide program providing data or administrative systems to schools (e.g., fiscal databases, student assessment results)	Transformation	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	Transformation	Transformation
H. Equity and access to technology	Transformation	Transformation

How do we get there?

As a school focused on providing individualized learning plans, under the umbrella of an Information Technology Center (ITC), we are immersed in technology and technology solution development. Every student, teacher, and staff member uses technology as a major part of what each does. Therefore, governing policies for technology use are at the forefront of our pursuit of the latest and best technology solutions. Evaluation of tools, both hardware and software, used in the Learning Without Limits (ANGEL, subscriptions, database support, online gradebook, mobile devices, etc.) is ongoing, and such tools are thoroughly tested prior to adding to, modifying, or upgrading our systems. Each new initiative (e.g., podcasting by teachers, blogging, wikis, flash animation, etc.) or major changes to existing policies and procedures (new student orientations, for example) must be vetted with appropriate staff before continuing with the venture. We will move toward transformation with continued training for teachers and students regarding those tools and resources deemed necessary for sustaining student achievement and progress.

How do we know we are getting there?

Departments/Divisions, governing the various functions of both Learning Without Limits and TRECA proper, are already in place and will be assigned accordingly to oversee appropriate policies and procedures. A major question that constantly needs to be considered is whether the technology itself is a boon or a detriment to student achievement, progress, and retention. Use of internal grades / attendance / retention records along with results of state testing will provide the ultimate indicator of success. Intermediate indicators will include (but not be limited to) hardware/software information (age of equipment, current versions of software, etc.), surveys of clients (partner districts, students/parents, etc.), orientation and withdrawal data, and teacher feedback regarding curriculum and classrooms.

How do we sustain the focus and momentum?

We have created a Teacher Professional Development Center which brings educators to training in the independent learning environment and the use of technology tools to enhance our courses. In addition, our relationship with various technology vendors serves to enhance our search for and implementation of technology initiatives and curricular enhancements. Also, our ability to easily survey different groups and subgroups of students through ANGEL allows us to keep a finger on the pulse of our most important clients and thus use that information to direct needed policy additions and revisions. Through the use of blogs, texts and social media our clients can respond to various prompts to reflect on current practices and suggest enhancements for the future

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. Electronic network linking district with other stakeholders for information exchange, collaboration and distance education	Transformation	Transformation
B. District wide program providing data or administrative systems to schools (e.g., fiscal databases, student assessment results)	Transformation	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	Transformation	Transformation
H. Equity and access to technology	Transformation	Transformation

How do we get there?

As a school focused on providing individualized learning plans, everything is built around using technology to meet this goal; it is a part of who we are and what we do. Technology is not an option for administrators, teachers, or students but a requirement. It is inherent in our environment. Any professional development that is conducted is geared toward improvement of communication and support for new resources rather than implementation.

How do we know we are getting there?

With our student information system and the tools and reporting features in ANGEL, we have a variety of ways to monitor teacher and student use of technology. Again, technology is inherent in our environment. To be able to survive, all stakeholders must be able to show proficiency in the use of a variety of technology, both hardware and software.

How do we sustain the focus and momentum?

We continue to search for and implement cutting-edge educational technology solutions. Everyone, from top-level administrators to each student in the Academy, must be proficient in the use of the technology resources that comprise our school. TRECA/LWL is an educational leader in technology; technology use is part of being on the team.

3.3 Technology Leader/Coordinator Time Commitments

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

How will we get there?

There is no official technology coordinator position at LWL as we have the resources of a state ITC, TRECA, to provide needed technology planning, project management, procurement, project implementation, security and technical support. These resources from TRECA help facilitate the work of LWL. TRECA provides the same resources as it does to its consortium schools throughout the state, and, therefore, LWL has access to specialized resources in technology maintenance, hardware/software implementation, a fully-staffed LWL Help Desk, and a warehouse that houses equipment and facilities for repair and hardware/software upgrades. As we continue to learn and grow from our experiences in the delivery of individualized education, we hope to decrease the amount of time spent training end-users and apply that time instead to curriculum development and evaluation and implementation of new technologies and practices as they become available. Continued monitoring of both teachers and students will be needed to determine what training will be needed to prepare these groups for functioning well in an environment. The Help Desk personnel, along with other technical staff, will continue to have their expertise with required hardware/software upgraded to better serve our clientele.

How will we know we are getting there?

Data will be gathered from a variety of sources. Information from Help Desk calls will give us numbers of calls and subsequent responses, types of problems identified, and solutions prescribed. The student information system will track data about student and teacher hardware (repairs, swaps, condition, etc.) as well as the state of progress and achievement of students who may be impacted by technology concerns. All of this data will inform decisions about what training of stakeholders is needed and how better to deliver it. Of even more importance, it can show us how technology "problems" of all kinds might be prevented, allowing us to redeem some of the time we would like to have to apply to curriculum development and new technology solution implementation.

How will we sustain focus and momentum?

Very simply put, without a continued emphasis on providing best practices in technology and independent learning solutions, LWL does not exist. Our Academy is completely technology-oriented by the very nature of what we were created to provide independent learning educational delivery. We will continue to provide high quality professional development (face-to-face and online) for all staff, including new certifications and training for the technology services personnel and leadership to encourage and enhance growth of skills for students and all staff.

Technology Infrastructure, Management and Support

4.1 Networking, Internet & Telecommunications

This section is designed to speak to the network/telecommunications infrastructure necessary to support the technologies in use by the district for administrative and instructional computing. These uses range from EMIS reporting, shared administrative applications, video on demand (VOD), voice over IP (VoIP) telephony, thin client server access, Internet research and others.

With a wide range of new, converging or expanding services relying heavily on a converged network, capacity planning is imperative to the success of subsequent strategies that use the network. For example, a network using thin client connectivity to servers, with heavy Internet access, file and print services, as well as voice over IP, will need careful network capacity planning to introduce video streaming technologies.

ACTIVITY 1:

Complete the portfolio of network services and telecommunications services provided. Indicate any changes that you plan to introduce.

Use the following scale in answering "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 certain places.
- Many - This technology is pervasive throughout the district and/or building. Use the following scale in answering "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?
File and Print Sharing	Many	No Change
Internet Traffic	Many	Increase
Video Conferencing (IP)	Many	Increase
Video Conferencing (ATM)	None	Decrease
Video On-Demand (local building/district server)	Some	Researching
Video Streaming (Internet)	Some	Increase
Voice Communications - Voice over IP	Many	Increase
Voice Communications - Centrex/PBX	None	No Change
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

ACTIVITY 2:

Discuss the impact of the network and telecommunications services activity above on the bandwidth requirements of the LAN, WAN and Internet connection. Record the impact on bandwidth below.

	What is the current impact?
LAN Bandwidth	Increase
WAN Bandwidth	Increase
Internet Bandwidth	Increase
Wireless MAN Bandwidth	Increase

How will we get there?

The main challenge in the delivery of media rich content required for teaching and learning is bandwidth availability. Bandwidth is becoming more affordable. Tethered solutions, both hard-wired and fiber-optic, provide the greatest available bandwidth but are limited to the confines of the traditional brick and mortar school. Historically wireless solutions have lagged behind the tethered model. Wireless Local area networks have improved dramatically in recent years. Now 802.11n wireless local area networks can operate at wire speeds (144Mbps). These wireless LANs provide promise but again are limited to the confines of a brick and mortar environment. Recent availability of radio frequencies has spurred advances in cellular radio technology. 802.16 wireless metropolitan area networks are evolving and coming of age. Third Generation (3G) networks allow students to explore the learning resources outside the school gate. With the advent of fourth generation (4G) wireless metropolitan area networks a substantial bandwidth increase is now available anytime a student is in range of a 4G enhanced cell tower. Students enrolled in LWL are from an urban area and thus within the coverage area of several 802.16 fourth generation (4G) service providers. High speed wireless metropolitan area networks have created a new frontier for teaching and learning.

Local Area Networks / Wide Area networks

Students use 3G wireless as the primary means to connect to educational content. The hard wired wide area network is not the primary network for content delivery. It plays an important role in supporting IP phones and WiFi technologies for mobile devices. As 4G wireless metropolitan area networks grow and expand there will be a shift from WiFi enabled devices to devices that utilize the higher bandwidth of the 4G network.

High speed wireless networks

The modus operandi of LWL is the use of mobile devices on the wireless local area network and extends into the wireless metropolitan area network. As a school focused on providing individualized learning plans, under the umbrella of an Information Technology Center (ITC), we are immersed in technology and technology solution development. Everything is built around using technology to meet this goal; it is a part of who we are and what we do. Technology is not an option for administrators, teachers, or students but a requirement. It is inherent in our environment. Every student, teacher, and staff member uses technology as a major part of what each does. Each student and all staff are provided with a mobile laptop computer or other appropriate communication device that facilitates the goals and targets of the implementation of the technology standards for each subject area. This equipment is used as the primary portal to the curriculum both inside and outside the classroom. These devices connect to the inter-network using wireless local area networks (802.11) in the classroom and wireless broadband (802.16) metropolitan area networks when engaged in field activities. Many courses and lessons already incorporate a variety of technology tools and Internet sites, both free and subscription, which challenge students to use the technology resources at their disposal. Teaching and learning are facilitated through the use of assignments that utilize Internet research and curriculum embedded with podcasts, blogs and wikis. This model relies heavily on high speed Wireless Metropolitan Area Networks and Wireless Local Area Networks.

Content filtering of mobile devices

As technology evolves new challenges arise in maintaining compliance with CIPA regulations. Mobile devices are becoming less expensive and more prevalent but use of mobile devices can expose both the user and the technology to harmful content and safety and security risks. When school computers leave the network, both the computers and the users can be exposed to harmful content and safety and security risks. Mobile Internet filtering ensures the safety of users and reduces the cost, downtime, and frustration associated with computers that have a tendency to be compromised while off the network.

Countermeasures are required to defend against the onslaught of treats and inappropriate content on the network. To address these issues TRECA, working with a security consultant company, installed a new system in December of 2010 to filter internet content. A product from Lightspeed Systems is deployed. The Lightspeed model includes a security appliance (Lightspeed Rocket), operating on top of a hardened and secured operating system, preinstalled with Internet filtering software. A web based management software (Web Access Manager) and a client application (Lightspeed Guide Browser). This integrated solution provides the ability to handle traffic loads with up to 10Gbps. <http://www.lightspeedsystems.com>

The client application filter protects off-network computers from any location, with any type of Internet connection—without the need for a VPN connection. The client application filter communicates Internet-browser requests from the mobile computer to a security appliance at TRECA. In turn, the security appliance references the URL requests with its content database and either allows the request to be processed or sends a blocking and redirect message to the user. To use the client application filter on a mobile device, students login with their school network credentials. The browser transmits URL requests to the local a security appliance at TRECA. In turn, the security appliance, which checks the request against its content database, either allows it to be processed or sends a blocking and redirect message to the user. The client application filter detects and/or blocks access to inappropriate material on the Internet based on extensive, education-specific URL database, as well as custom allow and block lists, helping to ensure user safety and CIPA compliance.

How will we know we are getting there?

Bandwidth

In the wireless metropolitan area network model the responsibility for real time monitoring of bandwidth utilization shifts to the service provider. Students enrolled in LWL are required to live in a specific geographic area. This area is a target market for 3G and 4G wireless service. While LWL has an “unlimited” data plan for services on the WirelessMAN, it dose receive notices when an individual is using excessive bandwidth.

Content Filtering

A web based management software (Web Access Manager) is used to monitor the student access to Internet resources. The integrated hardware-software model for web filtering—offering intelligent features for customization, granular policy control, safe Web 2.0 access, and mobile filtering—to ensure safe web browsing for users and speed and reliability for the network. This model detects and/or blocks access to inappropriate material on the Internet based on an extensive, education-specific URL database, as well as custom “allow and block lists”. The web filtering appliance is placed inline in order to see, evaluate, and report on all network traffic. The application enables LWL to protect users on and off the school network. The model gives access to comprehensive information about who is viewing what over the Internet. The Web Access Manager ensures that search results on Google and other popular search engines do not include inappropriate sites or images, such as pornography and sexual content.

How will we sustain focus and momentum?

Wireless Metropolitan Area Networks

The cost of unlimited data plans will need to be analyzed and evaluated on a regular basis. As 4G technologies evolve, regular contract negotiations with service providers will be an important factor as these providers compete for market share. Contingencies for faulty equipment will include maintaining a small inventory of cold spares. Being able to provide students with replacement gear will enable them to remain engaged while their gear is being serviced by the service provider.

Web Helpdesk

LWL utilizes live help desk support based at TRECA in Marion Ohio. Parents and students are able to contact the help desk to resolve issues including connectivity, hardware malfunction, login issues, etc. A ticket tracking system is used to document and report issues, how the issues are resolved and to evaluate trends. Regular review and analysis of these tickets will give indication of the quality of service being demonstrated by the service providers.

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/or district.

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

How will we get there?

TRECA/LWL maintains critical connections and partnerships with major technology companies, such as Cisco, Apple, HP and Dell along with membership and participation in national organizations, including the International Society for Technology in Education (ISTE) and the National School Boards Association (NSBA). These partnerships, along with participation in various state and national technology and education conferences, provide opportunities for growth and professional development for all staff and for cutting-edge technology implementation.

LWL relies upon TRECA, as an ITC, to provide technical staff for all technology needs: ordering/deploying hardware, maintenance/repair, design and maintenance of various computer images for students/teachers, etc. In addition, LWL curricular staff works closely with the technical staff in researching various web and software resources for appropriateness and feasibility before incorporating such resources into the curriculum. When an emerging technology is identified or an upgrade is available for a current resource, committees of both technical and curricular staff test the technology and determine the best methodology for implementation; continued monitoring and assessment of all software, web resources, and hardware is ongoing.

Equipment is tracked in a very complex database system that was developed in-house by TRECA programmers and DBAs. Equipment records are used by Helpdesk staff to track and document details about the equipment incident, repair and failure rate. This information is available to the IT repair staff to assist in the triage and repair of equipment. It is used to assist in the determination if a piece of equipment should be repaired or replaced.

How will we know we are getting there?

The TRECA technical staff conducts ongoing needs assessment and analyses of software, web resources, and hardware to determine its inaugural or continued use in the LWL learning environment. The technical staff has also developed plans for the timing and budgeting of hardware replacement, based on age of equipment and student needs. Upgrades of equipment and resource tools occur as needed throughout the year and only after careful testing to ensure that the upgrade will not interfere with or interrupt the continued functioning of the Academy.

How will we sustain focus and momentum?

As we add additional resources, it is imperative that hardware/software meet student and curricular needs and operate properly. We will undertake a cost analysis to determine if any proposed upgrades or acquisitions are also cost-effective: Does the resource provide good quality and return on investment? Can implementation of the resource be done within the constraints of the state funding? Careful budgeting is a necessity.

4.3 Stakeholder Access to Educational Information & Applications

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

Minimal: Our organization utilizes some electronic documents to manage these systems and processes such as spreadsheets or word processor.

Adequate: Our organization uses database software to manage these systems and documents.

Advanced: Our organization shares this type of information using industry-adopted data standards and practices (e.g. SIF, XML-Web Services or EDI).

	Where are we now?	Where do we want to go?
Student Information Services	4 - Advanced	4 - Advanced
Instructional Applications	3 - Adequate	4 - Advanced
Data Analysis & Reporting	3 - Adequate	4 - Advanced
Grade Book	3 - Adequate	4 - Advanced
Library Automation	1- None	1- None
Facilities Management	3 - Adequate	4 - Advanced
Voice Telephony	3 - Adequate	4 - Advanced
Human Resources & Financial Management	3 - Adequate	4 - Advanced
Network Account Management	3 - Adequate	4 - Advanced
Transportation	1- None	1- None
Food Services	1- None	1- None

How will we get there?

LWL's relationship with TRECA as an ITC gives us immediate access to the latest systems or system enhancements that may be available. As TRECA implements and deploys new or enhanced access to these systems for consortium schools, LWL will, with TRECA support, implement and deploy any applicable systems also. TRECA also provides training and support in each of these system areas of which LWL can take advantage.

How will we know we are getting there?

LWL's professional/technical staff is trained to monitor system performance and to provide corrective measures and/or search for and implement better or new methods of use of the system in question. In addition, we will continue to issue satisfaction surveys to various stakeholders (students, parents, teachers/staff, partners, etc.) as well as solicit feedback from those stakeholders as needed and when available in various venues. Our learning management system, ANGEL, streamlines the distribution of surveys for various audiences and purposes and the compilation of results.

How will we sustain the focus and momentum?

We will facilitate ongoing professional development and information distribution about use of these systems (primarily the learning management system and student information system / gradebook) as needed for teachers, staff, students, partners, and parents. We will monitor student retention and school growth as a major determiner of whether the environment and supporting systems is appropriate for the various stakeholders, along with ANGEL surveys and student exit data.

4.4 Educational Software

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

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

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?
Student Information Services	4 - Advanced	4 - Advanced
Professional development planning for end users and support personnel	Always	Always
Criteria for evaluation developed - including alignment to ACS and curriculum	Always	Always
Evaluation of demo copies	Always	Always
Implementation pilots	Always	Always
Replacement cycle (upgrade, retire, new)	Always	Always
System requirements / technical and operational support	Always	Always

How will we get there?

We have learned that the smallest change in the computer software image or learning environment can impact all students. To be an individualized school, we must fully analyze and pilot new software, web resource plugins, or changes to the learning management system. Total cost of ownership (TCO) must include not only the acquisitions, deployment, and ongoing support (maintenance/repairs) of such items but also the research/analysis, testing, and piloting phases.

Much planning and thorough testing by technical staff and system administrators has proved to be the solution for implementation of new resources or enhancements to existing ones.

How will we know we are getting there?

We will conduct customer satisfaction surveys on a regular basis, mainly aimed at students and parents, to determine what works (or doesn't). Student exit surveys will continue as well. In addition, in regular meetings with staff and partner districts, we will continue to solicit feedback.

How will we sustain focus and momentum?

The current state funding model will continue to challenge LWL to work hard to incorporate our technical needs within the fiscal restraints given. Though always checking where we might "trim the fat," nevertheless there are certain "non-negotiable" technology needs required in maintaining an effective school (equipment for each student/teacher, adequate software/subscription resources to support the curriculum, etc.). We will continue to explore grant funding and partnerships with technology companies to help underwrite these needs.

In the long run, the effectiveness of these processes and the technology solutions that they have helped put into place will be evaluated by our alignment with the academic content standards and student achievement and performance on state tests.

4.5 Security

None: Organization does not have any of these policies or securities in place.

Minimal: The basic functions are present, but not all layers are addressed.

Adequate: The basic functions are present and all layers are addressed and integrated.

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	4 - Advanced	4 - Advanced
Security zones	4 - Advanced	4 - Advanced
Wireless network security policies	4 - Advanced	4 - Advanced
Central log mechanism and review policy	3 - Adequate	3 - Adequate
Incident response procedures	3 - Adequate	3 - Adequate
Network security	3 - Adequate	4 - Advanced
Host Security	3 - Adequate	3 - Adequate
Data security / integrity	4 - Advanced	4 - Advanced
Anti-virus software	3 - Adequate	3 - Adequate
Spyware	4 - Advanced	4 - Advanced
Firewall	4 - Advanced	4 - Advanced
Filtering	3 - Adequate	4 - Advanced

How will we get there?

Learning Without Limits has developed a very strong acceptable use policy that must be signed for every student under eighteen years of age by a parent or by the student who is eighteen years or older. The compliance with this policy is a requirement for all students to maintain enrollment. Security and safety of children must be a goal of all schools, and Learning Without Limits takes this goal very seriously. First and foremost we look to provide a safe and secure internet experience for our students by requiring all systems issued to students to be set to access the web through a proxy that acts as a content filter. The filter is managed by our ITC and complies with state and federal guidelines. It requires a login ID and password that is unique for each student, allowing for logging of all activity on the web to ensure that students are complying with the acceptable use policy. Security zones are in force at our administrative offices and logins are required for access to servers. Our ITC provides firewall services as well as monitoring with an intrusion detection appliance to ensure the security of our network and critical servers. Our ITC manages our servers and ensures they our current on OS patches and virus definitions.

How will we know we are getting there?

Indicators of effective measures will be the uptime of critical servers, proxy servers, content filters, and number of repairs required for student desktops due to virus or spyware. Access to critical network services and servers will continue to indicate the effectiveness of the security policies. Tools to monitor success will range from the security appliances in place to the surveying of end user satisfaction.

How will we sustain the focus and momentum?

The threats to security are ever changing, and to be successful in maintaining a margin of security, we will be keeping security policies in place that will address new security threats as they become known. We will continue to work closely with our ITC to ensure that we are keeping up with the changing threat environment and modify policies to adapt to the threats as they change. Creating an informed user base through targeted training and online communication methods will help to prevent security problems that are introduced by user error, such as email viruses. Giving end users a stake in the successful implementation of security policies will be a key to our success.

4.6 Technology Support and Management

Support Ratios (1:n)

	Where are we now?	Where do we want to go?
Support Staff to Students	1:50	1:50
Support Staff to Teachers	1:06	1:06
Support Staff to Computers	1:70	1:70
Support Staff to Buildings	1:01	1:01

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

How will we get there?

The goal for or proposed change in student to support staff is to have a more efficient use of support resources and to utilize more effectively tools for remote assistance and management of student machines across the internet. Part of the solution to getting to a lower support staff ratio will depend on the increase in broadband connectivity for students and the refresh of equipment deployed by replacing older equipment more prone to hardware failure.

One factor that will increase staff efficiency will be the ongoing professional development opportunities for staff and access to online resources and training. Our current system will allow us to monitor average response time to calls and emails as well as being able to look at how long it takes to resolve issues.

New equipment is purchased as needed to replace gear that is damaged, obsolete or unrecoverable. Equipment is collected cleaned and reimaged after each education cycle. Students are able to contact the help desk as problems arise. Many simple issues are resolved over the phone. Equipment is sent in or brought in for repair or replacement as needed. As equipment arrives it is diagnosed and sent to cleaning and imaging, repair or disposition. Equipment that is in a non functioning state is sent to IT repair for recycling. IT repair staff determine if the machine can be used for parts or if it need to send to a recycler for disposal. Spare parts are harvested from disabled equipment and reused to repair existing equipment. This extends the useful life of the machine. In many cases equipment has doubled its life expectancy due to the efforts of the tech staff.

Last mile bandwidth is a challenge for any school. While high bandwidth connections are becoming more prevalent, many students in LWL still connect to the internet using low bandwidth connections. This low bandwidth limitation requires LWL to deliver content at the lowest common bandwidth level. LWL's instructional design team is currently updating curriculum. While the bar is being raised as telecommunications providers build last mile high bandwidth connections in communities, over the last few years economically disadvantaged students have seen little change in access to affordable broadband internet. LWL would like to emphasize the important role telecommunications providers and law makers play in providing affordable last mile broadband access to students.

How will we know we are getting there?

TRECA/LWL maintains critical connections and partnerships with major technology companies, such as Cisco, Apple, HP and Dell along with membership and participation in national organizations, including the International Society for Technology in Education (ISTE) and the National School Boards Association (NSBA). These partnerships, along with participation in various state and national technology and education conferences, provide opportunities for growth and professional development for all staff and for cutting-edge technology implementation.

Since all students and teachers need to have working technology to be in school, end users are critical in helping us determine best practices for technology support. One key indicator for monitoring end user satisfaction will be looking at the length of time Help Desk tickets remain open; currently most tickets are closed in less than a 24hour period. However, as we must rely on third-party shipping to exchange defective hardware, our ability to decrease response time for all end users will not be possible. We will survey teachers and students on their experiences with our support to determine what, if any, factors contributed to their satisfaction or dissatisfaction with the support received.

How will we sustain focus and momentum?

We will continue to monitor all aspects of technical support with weekly reports from the Help Desk, repair, and shipping. This will allow us to stay current with all trends affecting the ongoing support of end users. Our desire for successful support of our end users means we will be able to retain students in our program and be able to expand our user base, i.e., more students.

As we continue to look at maintaining effective support we must look at ways to be more efficient, allowing us to support more users with the same level of staffing without loss of service. This will allow us to be more cost effective and put more resources towards curriculum development and enhancing the end user school experience.

TRECA is currently engaged in a major rewrite of the database system. LWL is currently revamping its tracking system to provide real time data of the existing hardware to determine equipment status in terms of equipment deployed in the field, equipment in repair, equipment sent to recycling, etc. This information is used to determine when new equipment is injected into the system. The end result will allow LWL to operate more efficiently and be more cost effective and at the same time reduce equipment failures, reduce turnaround times for repairs, and be better prepared to deploy new equipment in a timely fashion.

Information in the database is available to warehouse staff when preparing for redeployment and new deployments of gear. The data is used by the administration to determine when old equipment needs to be retired and new equipment needs to be injected into the system. This new process will allow LWL to deploy new equipment and turn around older equipment in a timely fashion. This will reduce classroom down time for students, teachers and administrators.

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	Some	Some
Procurement Plan	More	Extensive
Specifications/Requirements/Fits Analysis	Extensive	Extensive
Integration of donated time, materials or services	Some	Some
Deployment/Installation plan	More	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	More	Extensive

How will we get there?

Equipment is tracked in a very complex database system that was developed in-house by TRECA programmers and DBAs. Equipment records are used by Helpdesk staff to track and document details about the equipment incident, repair and failure rate. This information is available to the IT repair staff to assist in the triage and repair of equipment. It is used to assist in the determination if a piece of equipment should be repaired or replaced.

Before any purchases are made, LWL will go through a project evaluation for any particular item, including gathering data from past purchases to do cost comparisons. TRECA's fiscal team, including the treasurer and business manager, regularly engage in such analyses to provide LWL with fiscally responsible recommendations for purchases that reflect consideration of the TCO model. The TRECA technical staff conducts ongoing needs assessment and analyses of software, web resources, and hardware to determine its inaugural or continued use in the LWL learning environment. The technical staff has also developed plans for the timing and budgeting of hardware replacement, based on age of equipment and student needs. Upgrades of equipment and resource tools occur as needed throughout the year and only after careful testing to ensure that the upgrade will not interfere with or interrupt the continued functioning of LWL. Much planning and thorough testing by technical staff and system administrators has proved to be the solution for implementation of new resources or enhancements to existing ones.

How will we know we are getting there?

The LWL annual report, based on end-of-fiscal year reports, indicates whether we are living within our fiscal means.

How will we sustain focus and momentum?

We have no choice; eliminating or greatly reducing our technology infrastructure would cause us to cease to exist. The use of technology and technology solutions are a major part of who we are and how we are expected to function.

We must fully analyze and pilot new software, web resource plugins, or changes to the learning management system. Total cost of ownership (TCO) must include not only the acquisitions, deployment, and ongoing support (maintenance/repairs) of such items but also the research/analysis, testing, and piloting phases.

An effective business model requires LWL to constantly evaluate its TCO. Support and instructor staffing, as well as new purchases of hardware and software must be balanced against available funding and enrollment parameters.

Budget and Planning

5.0 Budget

Sound budgeting is important for your technology plan; not only to project future spending and funding, but also to meet requirements for various private, state and federal funding opportunities. It is recommended that a representative from your treasurer's office be involved in completing this phase.

LWL Budget

	2010-11	2011-12	2012-13
Salaries and Wages ¹	\$ -	\$ -	\$ -
Employee Retirement and Insurance Benefits ¹	\$ -	\$ -	\$ -
Purchased Services ¹	\$106,500.00	\$177,500.00	\$213,000.00
Supplies and Materials ²	\$34,500.00	\$57,500.00	\$69,000.00
Capital Outlay – New ³	\$ 9,000.00	\$15,000.00	\$18,000.00
Capital Outlay – Replacement ³	\$ -	\$ -	\$ -
Additional	\$17,925.00	\$ -	\$ -
Total	\$167,925.00	\$250,000.00	\$300,000.00

How will we get there?

The very cause that makes isolating technology costs for LWL difficult is also a boon. ¹Currently LWL outsources all staffing to TRECA thus "Salaries and Wages" as well "Employee Retirement and Insurance Benefits" fall under purchased services. ²LWL contracts with TRECA for many technology services, making it difficult to separate out discrete costs (for example, technology supplies from all supplies for the organization and technology PD from all PD). ³Also, TRECA, as an ITC, and LWL, as a school, have technology and technology solutions as their central focus; we are not limited by a concrete technology budget. Because TRECA is an ITC, we have some advantages for acquiring technology solutions at our disposal that the traditional school district might not have. Those advantages, however, have limitations, also, and we constantly are looking for other funding assistance: grant sources, negotiating with technology companies for best pricing and discounts, and use of cost analyses along with both effective spending and conservative fiscal policies.