

HELIX CHARTER HIGH SCHOOL

TECHNOLOGY PLAN 2003-2006



by
Michael Ewing
[mewingx@helixcharter.net]

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INTRODUCTION

The Helix Charter High School Technology Plan 2003-2006 is an analysis of our current technology-curriculum integration, an inventory of our current availability of technology, and a blueprint for the next three years with the goals of enhancing all students' achievement through curriculum technology integration, enhancing teacher skills and understandings of what technology can and/or should do, and aggressively making our available technology useful to all of our students.

Helix Charter High School is currently partnered with the Lemon Grove School District, and is digitally connected to LemonLINK – the Lemon Grove School District's (LGSD) network infrastructure. We are currently engaged in a three year contract in which LemonLINK provides us our IT services. LemonLINK provides us with the following integrated network services, which are jointly administrated by Helix and LGSD. A brief overview of the current infrastructure of network resources hosted and jointly administrated by both Helix and LGSD is presented below:

- Physical hosting of our Microsoft Windows 2000 Servers (**helixcharter.net**), which provide:
 - o Active Directory user database authentication for a dual-platform (Macintosh and Windows) environment
 - o Microsoft Exchange Email hosting services for all students, staff and faculty
 - o Microsoft Internet Information Server (IIS) for www.helixcharter.net web site hosting (FTP to web site access as well)
 - o Microsoft Internet Security and Acceleration Server services for Internet connection filtering and secure proxy-based web access
 - o Citrix Metaframe (composed of three dedicated Dell-brand rack mount servers and two SuperMicro-brand rack mount servers), that provide thin-client services through ICA protocol
- A complete, redundant, routinely backed-up storage area network solution, which hosts individual student and staff storage folders with network access
- Computer and network hardware maintenance
- Maintenance of the switch and router equipment on Helix campus
- Support of our Library database program (SIRSI)
- Overall network support, to include consultants, if and when necessary for system maintenance

Helix maintains an on-site Apple Computer network as well that is integrated into the Microsoft Windows network. It hosts a remote desktop managed solution for

optimal interactivity between students and teachers, separated subject workgroups for customized teacher/student environments, and a very simple network-based procedure for troubleshooting and repairing each workstation. Several Apple network-accessible storage volumes are also online for streaming video capture over the network.

Additionally, Helix also maintains 691 networked workstations that include Apple G3-based and G4-based computers, Microsoft Windows/Intel x86 based computers, and thin-client computing terminals that connect to a Citrix Metaframe server farm.

Helix Charter High School is also involved in an annual contract with the San Diego County Office of Education. We rely upon them for their Student Information System (SIS). Helix uses SIS to manage all of their student data, including test results from the CAHESE. Helix also utilizes the “My Reports” functionality of SIS that allows Helix staff members to print highly customized reports of data from the SIS database.

The Helix Charter High School Technology Plan 2003-2006 is written in a format consistent with the EETT formula for appropriate grant application, however is somewhat modified in structure. The EETT formula calls on school **districts** to conceptualize and construct the plan. However, due to the independent nature of the school (both because the school is a converted Charter school and because Helix does not partner with the Grossmont Union High School District for IT services), this plan will read as though Helix Charter High School *is* its own district.

If you have any questions regarding the Helix Charter High School Technology Plan 2003-2006, feel free to contact Michael Ewing via Email at mewingx@helixcharter.net or by phone at 619.644.1940, extension 164.

STAKEHOLDERS

TECHNOLOGY PLAN 2003-2006 STAKEHOLDERS

Name	HELIX TECHNOLOGY DEPARTMENT
Michael Ewing	Technology Specialist
Court Levy	Technology Coordinator
Richard Stack	Technology Specialist
Frank Lueke	Professional Advisor/Retired Teacher and Technology Coordinator
Dianne Beltran	Technology Teacher

Name	HELIX STAFF MEMBERS
Doug Smith	Principal
PaulaAnn Trevino	Department Chairperson/Social Science
Ray Funk	Department Chairperson/Math
Dan Baits	Department Chairperson/English
Rick Ash	Department Chairperson/Physical Education
Shelley Pool	Department Chairperson/Foreign Language
Christine Colera	Department Chairperson/Art
Paul Loozen	Department Chairperson/Science
Judy Kirk	EXL Program Coordinator
Bart Hays	Science Teacher/Grant Writer
Karen Skullerud	Head Librarian/Title I Coordinator
Gerry Stanley	Special Education
Howard Estes	Advanced Placement Coordinator
Cheryl Tyler	Data Assessment

Name	LEMON GROVE SCHOOL DISTRICT
Darryl LaGace	Lemon Grove School District
Barbara Allen	Lemon Grove School District

Name	HELIX CHARTER BOARD PARENT and STUDENT MEMBERS
Lori Free-Trout	Charter Board Parent Representative
Robin Peterson	Charter Board Parent Representative
Michelle Kitson	Charter Board Student Representative
James Proudfoot	Charter Board Student Representative

ABOUT THE STAKEHOLDERS...

The Helix Charter High School technology plan was written in several stages. The stages are described below, illustrating the involvement of staff members, administrators, parents, students, and partners as the plan came to the form it currently stands in.

STAGE ONE of PLAN DEVELOPMENT

Stage one of the Technology Plan's evolution was based upon fulfilling the state requirement to submit a version of the plan to the EETT by the deadline. This version of the plan needed to:

- Illustrate clearly to the Helix Charter Board what the major goals of the Helix Technology Department plan to meet
- Needed to be constructed with a solid framework upon which future revisions of the plan could build on top of

The version that was submitted was intended to be as close as possible to (what would become) the **passing** version of the technology plan. This allowed the school's Charter Board to evaluate the plan in the state that it was in, and allowed them to proceed to motion to adopt the plan in its current state.

The immediate members of the Technology Department (Rick Stack, Court Levy, and Michael Ewing) are very active in assessing staff professional development needs, as well as the needs of the students. All three department members perform in-classroom services per work orders, and are constantly observing the integration of the technology in the classrooms. Dianne Beltran, a teacher and previous member of the technology department, has also lent an important hand to the school, specializing in the professional development of staff members to further integrate technology into the classrooms. Finally, Frank Lueke – the previous Technology Coordinator for Helix – also offered a tremendous hand in the initial assessments of technology-curriculum integration and the problem-solving of determining how technology can better serve the student population.

Several different methods were utilized to personally engage various department chairpersons and staff members at Helix. One-on-one meetings with various staff members, as well as questionnaires intended as primers for future consultations were utilized. This allowed the tech plan to be built upon the identified and defined needs of teachers and students, while maintaining a realistic perspective of how Helix can achieve the fulfillment of these needs.

STAGE TWO of PLAN DEVELOPMENT

Stage two of the evolution of the Helix technology plan began shortly after the submission of the first version. This second stage of the technology plan's development also involved two objectives:

- The revision of the necessary plan components, as requested by the EETT's plan readers
 - The revision of goals, benchmarks, and evaluation tools that would be revised in the natural evolving process of the school's technology plan, per an evolving campus
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COMPONENT I: CURRICULUM

ASSESSMENT OF NEEDS AND RESOURCES/*curriculum*

District Curriculum

Helix Charter High School's curriculum goals are based on the California Curriculum Standards for grades 9-12. All curriculum area departments were surveyed to determine the specific uses of technology that would best support teaching and learning within their department. The curriculum goals for the school's charter were also used to determine student curriculum goals.

Student Accessibility

In order to fully meet the personal needs for students utilizing computers, all students at Helix Charter High School are given a **personal logon account** for the campus network system. This is the student's gateway to their own personalized networked computer environment. This account allows a student to logon to any machine throughout the campus and have access to their network file storage volume. Currently, the technology-related courses are making complete use of the equipment available, but not all of the classes offered at Helix integrate computer and network technologies into the curriculum.

There are two dedicated "drop-in" computer labs (one in room 220 and the other in the school library) that are available for before school, passing break, lunch time, and after school for student use. This year there will be an additional community resource available at the newly opened Ray and Joan Crock Center, located four blocks east of Helix's campus -- 20 computer terminals, with access to the resources of the **helixcharter.net** network, will be available for students into the evening hours.

Through any Internet connection available, students have the unique ability to transfer data through a web portal to-and-from their school network storage folder. They also can access their personal Email account from helixcharter.net through the school web site and perform Email tasks (enabled through Microsoft Outlook Web Access). Utilizing these two methods of productivity, students are able to access their school work and hosted E-mail to home or any other location with Internet access. These opportunities for communication and research ultimately well contribute to the goal of enhancing the student learning experience.

In partnership with Lemon Grove we are working to provide broadband Internet access to the home through Cox Communications and thin-client technology to

students that do not now have Internet access. Options to fund such a venture are still being researched.

Non-Technology Specialized Courses

It is the intent of Helix Charter High School's technology department and related staff to deliver the most technologically integrated student learning environment possible. Each day our teachers find new and innovative ways to integrate the computer workstations into their daily lesson plans. Through staff development-dedicated workshop offerings, the tech staff and the teachers work together to find solutions for software-curriculum integration.

The following chart gives an idea of the level of software integration that is currently being utilized by Helix teachers.

Department	Department Chair	Integrated Software
Art	Christine Colera	Internet Explorer, Adobe Illustrator, Adobe Pagemaker, Adobe Photoshop, Macromedia Director, Macromedia Dreamweaver, Macromedia Flash, Macromedia Freehand
Business	Matt Guarnotta	Cinema 4D, Adobe Photoshop, Adobe Premiere, Adobe Illustrator, Adobe PageMaker, Adobe Go-Live, Macromedia Director, Macromedia Dreamweaver, Macromedia Flash, Macromedia Fireworks, iMovie, Microsoft Word, Microsoft Excel, Microsoft Powerpoint, TypingMaster 2002
English	Dan Baits	Adobe Premiere, Internet Explorer, Microsoft Word
Foreign Language	Shelley Pool	Internet Explorer, Microsoft Word
Home Economics	Beth Leighton	Internet Explorer, Microsoft Word
Library	Karen Skullerud	Internet Explorer, Microsoft Word, SIRSI
Math	Ray Funk	Accelerated Math by Renaissance Learning, Internet Explorer, Fathom, Geometer's Sketchpad
R.O.P.	Renee Ackerman	Adobe Pagemaker, Microsoft Word, Microsoft Excel, Microsoft Powerpoint, AutoCAD Lite
Special Education	Gerry Stanley	Internet Explorer, Microsoft Word, Microsoft Excel, Microsoft Powerpoint, EZ-IEP
Science	Paul Loozen	Fathom, Inspiration, Interactive General Chemistry CD, Internet Explorer, Logger Pro, Microsoft Word, Physiology CD
Social Science	Paula Ann Trevino	Internet Explorer, Microsoft Excel, Microsoft Outlook, Microsoft Powerpoint, Microsoft Word

In response to the reality that some classrooms have more computer workstations than others, Helix has purchased and currently supports two serviced COWs (Computer on Wheels). These mobile carts provide 16 student iBook laptops, 802.11b wireless network enabled, along with an Apple Airport wireless access point and a

network printer. These COWs are checked out weekly by teachers to integrate into their lesson plans.

It is the intention of Helix to procure additional iBook COWs, providing teachers with the ability to integrate additional computers into their daily lesson plans.

Technology Specialized Courses

Introductory and intermediate technology classes are given to all Helix students and are part of the graduation requirements.

**EXAMPLES OF CURRENTLY OFFERED
TECHNOLOGY SPECIALIZED COURSES**

Computer 3D Design and Animation: In this course you will learn the cutting edge of 3D design and animation. You will use state of the art software to create Hollywood-quality, three dimensional designs and animations. You will learn to create the same visual effects used in movies, television, video games, and web pages.

Digital Imagery 1: In this class you will learn about the history of manipulated images, the ethics of editing images, aesthetics, artistic perception, artistic composition, and creativity. Students will work with original photographs and electronic images. Students will use Adobe Photoshop, Adobe Illustrator, Adobe PageMaker, and Macromedia Director throughout the course of the class.

Tech Discoveries 1: The curriculum of this 1 quarter course is designed so that students will be exposed to various technological concepts and career paths. The format for this course entails modular stations. Stations include progressive, interactive lessons in Adobe Photoshop, Adobe Illustrator, Macromedia Dreamweaver, Macromedia Flash, iMovie, and Microsoft Powerpoint.

Business Tech/Keyboarding: This course teaches Microsoft Office 2000 Standard Edition suite of applications (Word, Powerpoint, and Excel) to provide the student with skills necessary to produce professional documents. They are also taught how to touch-type with the TypingMaster 2002 application. The students run this software on a thin-client environment, hosted by the Citrix Metaframe server farm of five servers.

ExL: The Assessment and Transformation

Helix Charter High School offers a course called **ExL**, or **Extended Learning**. This course is offered to 9th and 10th grade students. This study-hall like course allows students time to study and complete homework, research projects, and read for pleasure under the supervision and guidance of an adult tutor. Students assigned to ExL are rescheduled to different classes once they obtain **and maintain** a GPA of 3.0 or higher.

Unfortunately, technology implementation in ExL has fallen prey to a serious lack of funding. There are currently six functional (converted) Citrix workstation terminals, which are actually running on legacy Apple computer systems. These hybrid stations are in poor condition and are barely serving their purpose as Citrix client machines. They are also not fulfilling the demand of the ExL students, as there are six terminals and over 150 enrolled.

This is a highly problematic ratio of students to computer workstations. Many students find themselves unable to use the workstations at times. These students become frustrated, and ultimately could degrade the overall learning experience by becoming a distraction to others. The inability for a student to work on his or her documents in a tutor/study hall environment is unacceptable when considering the intended purpose of the program.

It is obvious that serious attention should be focused on this situation. It is our intention to replace those 6 hybrid terminal workstations with 63 Wyse WinTerm workstations over the course of three years. Additionally, Citrix terminals will be given access to additional web applications called “skillbuilders.” These are study-related websites that are already implemented into the Lemon Grove School District curriculum.

In collaboration with Judy Kirk, head of the ExL program for Helix, as well as the Lemon Grove School District, it is the intention of Helix to transform the classroom into a **Technology Study Center** that will enhance the student learning experience.

LOOKING TO THE FUTURE/curriculum

GOALS, OBJECTIVES, AND BENCHMARKS
TIMELINE OF SUGGESTED ACTION STEPS
MONITORING AND EVALUATION

GOALS, OBJECTIVES, AND BENCHMARKS

Goal A-1: Enhance the student learning experience in ExL		
Objective 1 of 2: Raise the first time student passing percentage of the CAHSEE to 75%.		
Objective 2 of 2: Increase the usage of the Citrix Metaframe system in ExL by 250%.		
End of Year 1: The first time student passing percentage of the CAHSEE will be 65%. The Citrix Metaframe system will record a system usage of 150% of year zero.		
End of Year 2: The first time student passing percentage of the CAHSEE will be 70%. The Citrix Metaframe system will record a system usage of 200% of year zero.		
End of Year 3: The first time student passing percentage of the CAHSEE will be 75%. The Citrix Metaframe system will record a system usage of 250% of year zero.		
Evaluation Instrument(s)	Schedule for Evaluation	Program Analysis and Modification Process
CAHSEE first time student passing data (Cheryl Tyler) Citrix Metaframe usage audit report data (Michael Ewing)	Annually	Based upon terminal usage data gathered from audit, it can be determined whether or not the terminals are being used more in relation to the increased workstation pool. It can then be determined whether further terminal purchases are necessary (and useful).

Goal A-2: Enable teachers to deliver website-integrated curriculum		
Objective 1 of 2: Teachers will be able to create and maintain their own web site, linked from the main Helix Web Site.		
Objective 2 of 2: By 2006, at least 70% of the employed teachers at Helix Charter High School will have their own teacher web site.		
End of Year 1: 40% of the teachers will have their own curriculum-integrated web site.		
End of Year 2: 55% of the teachers will have their own curriculum-integrated web site.		
End of Year 3: 70% of the teachers will have their own curriculum-integrated web site.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Feedback from parents to teachers regarding parent-teacher communication and involvement (teachers)	Annually	Depending upon the rate of teacher involvement the first year, these benchmarks might be altered.

Student Record Keeping and Achievement

The goal of Helix Charter is for each student, and their parents, to have access to up to date information on the student's academic progress. To accomplish this, the school will develop a web-based system for students and parents to use to have private access to grades that are posted by teachers.

Goal A-3: Enable teachers to provide web-based grade reports for student/parent reference.

Objective 1 of 1: Teachers will be able to create and maintain their own electronic grade book, as well as be able to "export" and "upload" web site grade reports to their own web site.

End of Year 1: 70% of the teachers will be able to create/maintain/export their electronic grade book.

End of Year 2: 80% of the teachers will be able to create/maintain/export their electronic grade book.

End of Year 3: 90% of the teachers will be able to create/maintain/export their electronic grade book.

Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Feedback from teachers to the technology department (teachers)	Annually	Depending upon the rate of teacher involvement the first year, these benchmarks might be altered.

Ensuring appropriate access by all students

The fundamental goals of this plan are to integrate technology into the full spectrum of the curriculum and to provide all students with a wide-range of technical skills and technology no matter what the grade level, educational achievement, or physical ability. To achieve these goals, there must be a variety of technology located in the classroom, library/media centers, computer labs, and other related instructional areas. Students and teachers need adequate and appropriate technological resources. The resources must be reliable, appropriate for the intended uses, accessible to all students in and out of the classroom, and in sufficient quantity to ensure their effective use. Those students who require specialized technology to assist them in achieving their educational goals will be provided through various programs such as GATE, Special Day, Title One, Bilingual, and classes which support those with physical disabilities.

Goal A-4: Provide all students with special needs with access to technology that meets their individual needs as specified by their IEP, or other documentation.

Objective 1 of 1: All students who are part of a special population will have an individual, or group technology access plan, to be produced by the appropriate department. This plan will document the specialized technology use and access of GATE, Special Day, Title One, Bilingual students, as well as students with physical disabilities

End of Year 1: All students in 11th grade will have an individual or group technology access plan

End of Year 2: All students in 10th, 11th & 12th grade will have an individual, or group technology access plan

End of Year 3: All students in 9th, 10th, 11th & 12th grade will have an individual, or group technology access plan

Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Feedback from departments to the Technology Department. The department chair will act as the catalyst of the teachers' voices and needs in their respective departments.	Annually	Based on input from department chairs

TIMELINE OF SUGGESTED ACTION STEPS

Action Step	Person Responsible	Completion Date
Assess the availability of appropriate technology to meet the individual needs of teachers and students both during the school day and outside school hours.	Michael Ewing	4/1
Assess the school's current use of hardware and software to support teaching and learning.	Michael Ewing	4/1
Review the school's curricular goals as presented in various district and site comprehensive planning documents.	Michael Ewing	4/1
Develop clear goals and a specific implementation plan for using technology to improve teaching and learning.	Michael Ewing / Court Levy	4/1
Develop clear goals and a specific implementation plan describing how and when students will acquire technological and information literacy skills needed to succeed in the classroom and the workplace.	Michael Ewing	4/1
Develop clear goals and a specific implementation plan for programs and methods of utilizing technology that ensure appropriate access by all students.	Michael Ewing	4/1
Develop clear goals and a specific implementation plan to utilize technology to make student recordkeeping and assessment more efficient and supportive of teachers' efforts to meet each student's academic needs.	Michael Ewing / Court Levy	4/1
Develop clear goals and a specific implementation plan to utilize technology so that teachers and administrators can be more accessible to parents.	Michael Ewing	4/1
Compile benchmarks and a timeline for implementing the strategies and activities.	Michael Ewing	4/1
Develop a process to monitor whether the strategies and methodologies utilizing technology are being implemented according to the benchmarks and timeline.	Michael Ewing	4/1
Determine the indicators of success that will be used to evaluate whether implementation of the plan has made a positive impact on student achievement.	Michael Ewing	4/1

For the focus areas, the plan delineates clear, specific and realistic goals for using technology to support the progress of all students, including special education, GATE, English Language Learners, etc. The implementation plan clearly supports accomplishing the goals.

MONITORING AND EVALUATION

The goal tables that have been presented earlier in this section also contain evaluation methods and tools to ensure positive end results to the planned goals and objectives.

The reconstruction of the infrastructure component of ExL will ultimately prove very useful. It is very noticeable, upon walking into the ExL classroom during a computer-congested time, that the lack of computer terminals is actually degrading the quality of the ExL experience for other students. The lack of available computers in these study-hall environments, that students are expecting to either perform research or write papers on, is a frustrating experience for them. In turn, students can become a distraction to other students very quickly when they are frustrated. Should we find that ExL does not directly benefit from the added terminals in the first year (by analysis of the CAHSEE and audited use data), further installation of terminals in ExL will be reconsidered.

The education of the teacher population to design web sites is absolutely essential to the evolution and integration of a technology-driven curriculum. The web site for a teacher not only serves as a reference for students in class during lectures, but also offers parents a direct insight to what it is that their children are supposed to be doing. It also has the ability to transform into a communication channel between teachers, parents, and students. It is our belief at Helix that these efforts to train teachers in web site development will result very positively.

COMPONENT II: PROFESSIONAL DEVELOPMENT

ASSESSMENT OF NEEDS AND RESOURCES/professional development

Teacher and Administrator Needs for Professional Development

The teachers and administrators have somewhat different technological responsibilities that relate to their levels of technological expertise.

The Helix **administrative staff** is overall more proficient with using technology in their daily lives. The administrative PCs and Macs are loaded with the Microsoft Office suite. Microsoft Outlook is highly integrated into the front office personnel, and it is necessary to understand how to use the program in order to successfully perform their jobs. Many staff members also employ the use of the San Diego County Office of Education Student Information System; a terminal emulation-based client that offers customized view screens and reports to student data.

Helix **teachers** come from a variety of technical backgrounds. Because some departments rely more heavily on computers to deliver their curriculum, the expectations for the teachers also vary. All teacher workstations are loaded with the Microsoft Office suite, as well as a variety of other programs. Some programs, on the Apple workstation platform, are only accessible to certain teachers that teach technologically-specialized courses.

Surveying Helix Staff

It is one of the prime intentions of Helix Charter High School, in relation to professional development, to fully implement the CTAP survey system into our master plan as a powerful tool in the Monitoring and Evaluation component of future planning. In meeting with the various curriculum departments on campus, the following priorities were set for staff development by each department.

The English department seeks additional professional development attention to web site development. The Foreign Language department sees technology in their department playing more of a role to teachers in communicating student progress to parents and fellow colleagues, and requires more attention to Excel and digital bookkeeping. The Home Ec. Department requires training in Powerpoint, and is interested in additional technology beyond the Internet-based research paper assignments that the C.O.W. (iBook-based mobile laptop lab) currently supports. The Art department expresses the interest in Powerpoint-based lectures and web site curriculum for students. The science department is interested in evolving their curriculum's content with the use of digital photography and imagery, as well as

utilizing the Internet for research, communication, and website-assisted curriculum. All staff members (including administration) identified additional training on Microsoft Outlook.

Classroom Management Strategies

In the Apple workstation-driven classrooms, the teachers have access to administrative software that monitors their classroom computers. The software on the teacher workstation can also take control of, as well as disable, the other machines in a classroom “workgroup” if students are found to be in breach of the terms of the Internet Access agreement. This is another subject of professional development that is offered in workshop-format for teachers to sign up for. The Citrix Metaframe environment also has similar capabilities. The Citrix Management Console allows administrators to “shadow” (watch and take control of) other user sessions, should students be found in violation of the rules.

Online professional development opportunities for Helix staff members are still being researched. The Helix IT staff also produces various handouts throughout the school year – either to accompany staff development workshops or to get important technical information out to the users – that are archived for staff members to request at any time.

The professional development needs of Helix Charter High School, in relation to the needs of an entire school district, are much more focused. This is jointly a result of the school’s charter, as well as being able to focus the plan on a much smaller group of users. The Helix charter board fully supports the professional development workshops that are offered on dedicated days.

LOOKING TO THE FUTURE/professional development

GOALS, OBJECTIVES, AND BENCHMARKS

TIMELINE OF SUGGESTED ACTION STEPS

MONITORING AND EVALUATION

GOALS, OBJECTIVES AND BENCHMARKS

In order to ensure that Goal A-1: Enhance the student learning experience in ExL is met, it will be necessary to train all ExL tutors to use the Citrix system effectively.

Goal B-1: Educate the ExL tutors		
Objective 1 of 3: Educate the ExL tutors in best practices to monitor Citrix usage.		
Objective 2 of 3: Provide the ExL tutors with all of the resources they need to assist a larger student Citrix user base.		
Objective 3 of 3: Establish a system of constant communication and feedback with the ExL tutors to ensure system integrity.		
End of Year 1: 50% of the ExL are proficient in the use of the Microsoft Office suite, including Outlook Web Access, and are information literate.		
End of Year 2: 75% of the RxL tutors are proficient in the use of the Microsoft Office suite, including Outlook Web Access, and are information literate.		
End of Year 3: 100% of the ExL tutors are proficient in the use of the Microsoft Office suite, including Outlook Web Access, and are information literate.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Judy Kirk is in charge of "Title 1" and the ExL program. She will be able to assess the needs of her tutors and forward these needs to Helix IT staff for consideration.	Quarterly	The amount of personal one-on-one training and dedicated staff development sessions for the ExL tutors will depend greatly on Judy Kirk's constant assessment.

In order to ensure that Goal A-2: Enable teachers to deliver website-integrated curriculum and Goal A-3: Enable teachers to provide web-based grade reports for student/parent reference are met, it will be necessary to train all teaching staff to to create and maintain their own web sites.

Goal B-2: Provide teachers the education to create and maintain their own web sites		
Objective 1 of 3: Teachers will be capable of producing their own web sites from the Macromedia Studio MX productivity suite.		
Objective 2 of 3: Teachers will be capable of uploading their own web site to the Helix web site.		
Objective 3 of 3: Teachers will be capable of exporting and uploading their own electronic gradebook reports to their own web site.		
End of Year 1: 40% of the teachers will have their own curriculum-integrated web site.		
End of Year 2: 55% of the teachers will have their own curriculum-integrated web site.		
End of Year 3: 70% of the teachers will have their own curriculum-integrated web site.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
The benchmarks provided above will be the instrument of evaluation to determine the necessity of making professional development available.	Quarterly	The amount of personal one-on-one training and dedicated staff development sessions necessary will depend greatly upon the rate at which teachers become "independent" in their ability to create and maintain their own web site.

In order to ensure that Goal A-4: Provide all students with special needs with access to technology that meets their individual needs as specified by their IEP, or other documentation it will be necessary to train all teaching staff to use the Microsoft Office Applications that have been identified by their departments.

Goal B-3: Educate the staff members on how to use Microsoft Office in their curriculum area.		
Objective 1 of 1: Teachers and administrators will be capable of using Microsoft Office applications to meet teaching/learning needs on their own teacher workstation.		
End of Year 1: 90% of staff will be proficient in one or more Microsoft Office applications.		
End of Year 2: 90% of staff will be proficient in two or more Microsoft Office applications.		
End of Year 3: 90% of staff will be proficient in three or more Microsoft Office applications.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Department chair person will maintain a record of the technology proficiencies of their teachers.	Quarterly	The amount of personal one-on-one training and dedicated staff development sessions necessary will depend greatly upon the rate at which teachers become "proficient" in their ability to use Microsoft Office applications.

As new Macintosh computers are purchased and older Macintoshes are upgraded, it is necessary to train the effected staff to use Mac OS X effectively.

Goal B-4: Educate the staff members on how to use Mac OS X		
Objective 1 of 2: Teachers will be capable of using Mac OS X and all of their teacher applications on their own teacher workstation.		
Objective 2 of 2: Teachers will be capable of providing enough expertise to help students that are unfamiliar or uncomfortable with Mac OS X.		
End of Year 1: 75% of the teachers will be trained and proficient in using a Mac OS X loaded computer. 50% of those teachers will be proficient enough to help students to become proficient.		
End of Year 2: 100% of the teachers will be trained and proficient in using a Mac OS X loaded computer. 75% of those teachers will be proficient enough to help students to become proficient.		
End of Year 3: 100% of the teachers will be trained and proficient in using a Mac OS X loaded computer. 100% of those teachers will be proficient enough to help students to become proficient.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
In the staff development surveying process, prior to the actual staff development days, the survey will assess the proficiency and comfort level of the teachers with Mac OS X.	Quarterly	The amount of personal one-on-one training and dedicated staff development sessions necessary will depend greatly upon the rate at which teachers become "proficient" in their ability to operate a Mac OS X loaded computer.

...About Professional Development Workshops

Professional Development workshops offered on staff development days include (but are not limited to):

- Microsoft Word
- Microsoft Excel
- Microsoft Powerpoint
- Microsoft Outlook/Email
- Running Mac OS X from a Mac OS 9.x user's perspective
- Teaching a classroom in an Apple, Macintosh Manager-managed environment
- Teaching a classroom in a Citrix Metaframe workstation-driven environment
- Creating and maintaining a web site using the Macromedia Studio MX suite
- Creating, maintaining, and exporting an electronic gradebook from Easy Grade Pro

These professional development workshops are put together as a result of the surveys completed by Helix staff members. The staff members that teach these workshops are technology-savvy teachers and administrators that have firm grasps on the subject matter to be relayed. The workshop teachers also provide reflections on real-world scenarios and examples of how the technology that is already here can be best utilized and integrated into the curriculum to enhance the learning process.

The necessity of personal professional development to the staff is handled by the technology specialists and the technology coordinator. The procedure for requesting individual (one-on-one) professional development utilizes the technology online work order form found at **www.helixcharter.net/techservicesform**. These requests are handled in a timely fashion, dependent upon the current workload of the technology staff members.

Professional development is offered routinely as breaks in school quarters permit them to take place. In cooperation with technologically-inclined staff members, the Technology Specialist organizes various workshops for professional development. The staff provides feedback on what areas of professional development they require by questionnaires.

TIMELINE OF SUGGESTED ACTION STEPS

Action Step	Person Responsible	Completion Date
Survey teachers' and administrators' current technology skills and needs for professional development.	Court Levy	In progress
Research professional development opportunities.	Court Levy	4/1
Develop clear goals and a specific implementation plan for providing professional development opportunities based on the needs assessment and the Curriculum component benchmarks and timeline.	Michael Ewing / Court Levy	4/1
Compile benchmarks and a timeline for implementing the strategies and activities.	Michael Ewing	4/1
Develop a process to monitor whether the strategies and methodologies utilizing technology are being implemented according to the benchmarks and timeline.	Michael Ewing	4/1

MONITORING AND EVALUATION

The goal tables that have been presented earlier in this section also contain evaluation methods and tools to ensure positive end results to the planned goals and objectives.

As mentioned in the component section, the education of the teacher population to design web sites is absolutely essential to the evolution and integration of a technology-driven curriculum. The web site for a teacher not only serves as a reference for students in class during lectures, but also offers parents a direct insight to what it is that their children are supposed to be doing. It also has the ability to transform into a communication channel between teachers, parents, and students. It is our belief at Helix that these efforts to train teachers in web site development will result very positively. Should the Helix IT staff find that their efforts are failing and not producing any substantial, noticeable results, a reconsideration of the goals and objectives, as well as the methods to achieving those goals, will take place.

The implementation of Mac OS X on the Apple workstations will be closely monitored. In addition to making sure that the new standardized platform of OS functions as well as the previous one, Helix IT staff will be closely working with other staff members to “ease” the transition. Ultimately, the functionality of the computer network, and all of the software, is the premier goal. Should MAC OS X’s campus-wide implementation produce incompatibilities that obstruct the learning process, the implementation process will be removed, reconfigured, and reevaluated.

COMPONENT III: INFRASTRUCTURE**ASSESSMENT OF NEEDS AND RESOURCES/infrastructure**NETWORK RESOURCES
INVENTORY TABLES**NETWORK RESOURCES**

Helix Charter High School has established itself digitally as **helixcharter.net**.

Helixcharter.net is the campus-wide integration of Apple and Wintel clients into an Apple/Wintel server network. A cross-platform (Microsoft Windows 2000 Server-hosted), shared Active Directory database stores the network login accounts and customized user fields for 2400+ high school student users, in addition to another 250 staff users.

All student users have the following network abilities:

- Personal cross-platform user login to any campus network computer station
- Content-filtered Internet access
- Access to productivity applications such as the Microsoft Office 2000/Office 2001/Office X suites of products
- Personal Email account (username@helixcharter.net), accessible from on campus or off campus through a web site portal (<http://www.helixcharter.net/exchange>)
- Personal network storage home folder (100MB), automatically mounted and made accessible to the user on login (on either Apple or Wintel platform of station)

Each building on the campus is equipped with its own IDF cabinet. Each cabinet contains rack-mount distribution panels, coupled with Cisco 100Mbps 24 and 48 port switches. The cabinets of switches in each IDF are linked to the MDF via campus-wide fiber optic connectivity. The entire campus is connected through room 250 (the network MDF) to Cox Communications to provide fast Internet access and to bridge the Helixcharter.net and LemonLINK networks.

Apple Platform Clients

Helix currently has a total of 451 Apple Computer workstations integrated into helixcharter.net network. The workstations connect over the network to a Macintosh Manager-driven segment of servers, which in turn authenticate to the Windows 2000 Active Directory database. Each of the workstations are loaded with

various applications, some applications exclusive to certain classrooms of courses (like Adobe Photoshop to our digital imagery-enhanced classes, for example). With the exception of 50 Mac OS X loaded workstations scattered across the campus, the majority of the workstations run Mac OS 9.2. They authenticate to the Windows 2000 hosted Active Directory database through a Mac OS 10.2 server.

Windows/Intel (WinTel) Platform Clients

Helix has approximately 89 Microsoft Windows installed computers (all network/Internet enabled). These workstations range from Pentium II to Pentium IV integrated desktop workstations and laptops (primarily Dell builds); all 100mbps Ethernet enabled and connected. These machines are primarily used by the business department ROP-offered technology-integrated courses, and the Helix administration. They run Microsoft Windows 2000 Workstation and log in to the Helixcharter.net domain.

Thin-Client (Citrix) Platform Clients

Helix employs a campus-wide Citrix Metaframe, thin-client terminal based solution for many classrooms. Five (5) Dell PowerEdge 2450 2U rack-mount servers running Windows 2000 Server/Citrix Metaframe 1.8 FR1. There are currently 151 Citrix Metaframe running terminals (comprised of WYSE WinTerm units and “converted” legacy Mac Citrix-client-run stations). The servers have a locked down set of policies applied to them to provide the student user as much desktop functionality as the security of the network allows. Citrix terminal sessions provide the user with a Windows 2000 desktop, Microsoft Internet Explorer, the Microsoft Office 2000 Standard suite of productivity applications, TypingMaster 2002, as well as several pieces of accounting software.

LOOKING TO THE FUTURE/**infrastructure**

GOALS, OBJECTIVES, AND BENCHMARKS
TIMELINE OF SUGGESTED ACTION STEPS
MONITORING AND EVALUATION

GOALS, OBJECTIVES, AND BENCHMARKS

In order to ensure that Goal A-1: Enhance the student learning experience in EXL is met, the necessary network infrastructure and client/server resources must be obtained and installed.

Goal C-1: Rebuild the ExL classroom into a Technology Study Center		
Objective 1 of 2: Install a total of 63 Citrix Metaframe client workstations into the ExL classroom.		
Objective 2 of 2: Install necessary Ethernet network drops to facilitate an additional 56 client workstations.		
End of Year 1: By the end of year 1, add an additional 21 WinTerm clients to the ExL client pool with additional 100mbps Ethernet receptacles.		
End of Year 2: By the end of year 2, add an additional 21 WinTerm clients to the ExL client pool with additional 100mbps Ethernet receptacles.		
End of Year 3: By the end of year 3, add an additional 21 WinTerm clients to the ExL client pool with additional 100mbps Ethernet receptacles. Also, have removed any legacy, Citrix client-converted terminals from operation.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
The Helix IT staff will monitor the progress of technological implementation over the 3 year course.	Quarterly	The Helix IT staff will monitor the progress of technological implementation over the 3 year course.

In order to ensure that Goal A-1: Enhance the student learning experience in EXL is met, the Citrix Metaframe environment will need to be upgraded and integrated into the Lemon Grove server-capable Citrix farm.

Goal C-2: Upgrade/merge the Citrix Metaframe environment to Metaframe XP		
Objective 1 of 2: Preserve the functionality of the Citrix Metaframe 1.8 FR2 environment that is currently in place.		
Objective 2 of 2: Integrate client-identified printer mapping in order to prohibit printing except in the room that the user is in.		
End of Year 1: Merge the HELIXCHARTER Citrix farm into the larger Lemon Grove farm which is running Citrix Metaframe XP.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Michael Ewing will evaluate the steps and progress of this merge in coordination with LGSD.	Monthly	Michael Ewing will evaluate the steps and progress of this merge, and will be sensitive to making sure the environment is at least AS FUNCTIONAL as it is currently.

As the demand for the portable laptop lab grows, it has become necessary to obtain additional COWs for daily teacher reservations.

Goal C-3: Obtain and make available two Apple-brand COWs		
Objective 1 of 1: Purchase and deploy two Apple-brand COWs, each with HP Laserjet 4100N network printers and 802.11b wireless Airpoint Base Station access.		
End of Year 1: Make available one additional COW for teacher reservation via tech work request.		
End of Year 2: Make available one additional COW for teacher reservation via tech work request.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Court Levy will be sensitive to the lack of funding that is currently feared by the department. The source of funding for this goal is not yet solved.	Annually	Again, this will all be determined by whether or not this venture can be funded. It is believed that we will have to find outside, alternate funding for this – rather than attempt to have funds allocated from the existing school budget.

As Apple has vowed gradual, discontinued support for Mac OS 9 in the near future, it has become important to update the Apple workstations with the newest revision of the operating system to ensure compatibility with OS X-exclusive applications.

Goal C-4: Deploy Mac OS X on all hardware-capable Apple-platform workstations		
Objective 1 of 1: Integrate a successful Mac OS X and Microsoft Windows 2000 Active Directory relationship on all of the Mac OS X client machines.		
End of Year 1: Successfully deploy a fully-functional campus-wide upgrade of approximately 400-500 workstations.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
Teachers around the campus will be surveyed by Helix IT staff for feedback regarding the upgrade process, and for the overall feel and comfort level of the instructors around the campus.	Weekly	This process will be constantly monitored by Court Levy, Richard Stack, and Michael Ewing as the new OS is slowly tested and implemented in various regions of the campus. The steps to complete this goal are currently being defined.

EQUIPMENT TO BE ACQUIRED OR UPGRADED ACCORDING TO THE PLAN

	In Classrooms	In Computer Labs	In Shared or Common Space	In Administrative Offices
Desktop Computers				
Use as is				
Upgrade				
To be retired when new or upgraded equipment is available		6 [legacy converted Citrix client PowerPCs]		
Number needed				
Laptops		32 [2 mobile computer labs]		
Use as is				
Upgrade				
To be retired when new or upgraded equipment is available				
Number needed		32		
Thin-Client Units		63		
Use as is				
Upgrade				
To be retired when new or upgraded equipment is available				
Number needed		63		

PERIPHERAL TALLY TABLE

Peripherals	Number on hand	Number needed
Digital cameras	15	15
Scanners/digitizers	25	25
Assistive/adaptive devices	0	0
Printers	71 [network printers]	73
VCR units	Approx. 100	Approx. 100
Video cameras	15	15
TV monitors	250	250
Graphing calculators	Approx. 100	Approx. 100
Computer screen projectors	20	20
Video conferencing units	0	0
Interactive white board	1	1
Personal digital assistant	10	10

TIMELINE OF SUGGESTED ACTION STEPS

Action Step	Person Responsible	Completion Date
Determine the technology hardware, electronic learning resources, networking and telecommunication infrastructure, physical plant modifications, and technical support needed by teachers, students, and administrators to support the activities in the Curriculum and Professional Development components.	Michael Ewing	4/1
Determine the existing hardware, Internet access, electronic learning resources, infrastructure, and technical support already in place in the school district that could be used to support the Curriculum and Professional Development components.	Michael Ewing/Court Levy	4/1
Seek advice and support from experts.	Michael Ewing	4/1
Develop benchmarks and a timeline for obtaining the needed hardware, infrastructure, learning resources, and technical support required to support the other components.	Michael Ewing/Court Levy	4/1
Develop a process to monitor whether the benchmarks are being reached within the specified time frame.	Michael Ewing	4/1

COMPONENT IV: FUNDING AND BUDGET**ASSESSMENT OF NEEDS AND RESOURCES/funding and budget**

The Helix technology department is fully aware of the current budget crises that plague the state of California. Helix is directly affected; technology accounts will be budgeted with less available monies to tap when necessary. It has become increasingly important to maintain an updated framework-state high school technology plan that might be easily manipulated for submittal to grant approval entities.

The current technology budget contains accounts for assumed technology expenditures. It is understood unanimously by the Helix staff that a dedicated fund is necessary to pay for the cost of computer upgrades, hardware repair, installation of additional Ethernet drops, and any other purchases deemed necessary by the Technology Coordinator. Although the Helix staff completely understands and supports the need for money allocated for infrastructure maintenance, the IT department would be hard pressed to make money available to fund some of our three year goals. It is important to note that alternative sources of funding are still in consideration at the time of this plan's creation.

LOOKING TO THE FUTURE/**funding and budget**

GOALS, OBJECTIVES, AND BENCHMARKS
TIMELINE OF SUGGESTED ACTION STEPS
MONITORING AND EVALUATION

GOALS, OBJECTIVES, AND BENCHMARKS

Goal D-1: Establish partial funding from the Helix budget committee to handle the planned goals.

Objective 1 of 1: Present the necessary costs to the committee to pay for the items planned.		
End of Year 1: Accrue at least 50% of the funding necessary for the first year.		
End of Year 2: Accrue at least 50% of the funding necessary for the second year.		
End of Year 3: Accrue at least 50% of the funding necessary for the third year.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
N/A	Quarterly	Michael Ewing and Court Levy will be exploring available possibilities for funding. Should inadequate funding be the end result at the end of any year, the plan's spending will be altered.

Goal D-2: Establish additional funding from sources outside of Helix's budget.

Objective 1 of 2: Research additional funding ventures through CTAP		
Objective 2 of 2: Research additional funding ventures aside from CTAP		
End of Year 1: Establish at least one other major funding source (at least 25% of the necessary funding constitutes a major funding source)		
End of Year 2: Establish at least one other major funding source (at least 25% of the necessary funding constitutes a major funding source)		
End of Year 3: Establish at least one other major funding source (at least 25% of the necessary funding constitutes a major funding source)		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
N/A	Yearly	N/A

OBJECT OF EXPENDITURE TABLE

Major Object of Expenditure Categories	Partner Contributions (a)	Specific Grant Funds (b)	School General Fund (c)	Total Funds by Object of Expenditure (a) + (b) + (c)
1099-1999 Certificated Personnel Salaries			YEAR 1: 30,000 YEAR 2: 30,000 YEAR 3: 30,000	YEAR 1: 30,000 YEAR 2: 30,000 YEAR 3: 30,000
2000-2999 Classified Personnel Salaries			YEAR 1: 100,000 YEAR 2: 105,000 YEAR 3: 110,000	YEAR 1: 100,000 YEAR 2: 105,000 YEAR 3: 110,000
3000-3999 Employee Benefits			YEAR 1: 20,000 YEAR 2: 21,000 YEAR 3: 22,000	YEAR 1: 20,000 YEAR 2: 21,000 YEAR 3: 22,000
4000-4999 Books and Supplies		YEAR 1: 10,000 YEAR 2: 10,000 YEAR 3: 10,000	YEAR 1: 10,000 YEAR 2: 10,000 YEAR 3: 10,000	YEAR 1: 20,000 YEAR 2: 20,000 YEAR 3: 20,000
5000-5999 Services and Other Operating Expenditures			YEAR 1: 170,000 YEAR 2: 170,000 YEAR 3: 170,000	YEAR 1: 170,000 YEAR 2: 170,000 YEAR 3: 170,000
Indirect Costs at an Established Rate (excluding the 6000-6999 category)				
6000-6999 Capital Outlay		YEAR 1: 20,350 YEAR 2: 20,350 YEAR 3: 7,350	YEAR 1: 20,350 YEAR 2: 20,350 YEAR 3: 7,350	YEAR 1: 40,700 YEAR 2: 40,700 YEAR 3: 14,700
Total Funds		YEAR 1: 30,350 YEAR 2: 30,350 YEAR 3: 17,350	YEAR 1: 180,350 YEAR 2: 186,350 YEAR 3: 192,350	YEAR 1: 380,700 YEAR 2: 386,700 YEAR 3: 392,700

BUDGET NARRATIVE TABLE

Line Item Category	Description
1000-1999 Certificated Personnel Salaries	This line item pays for the site Technology Coordinator's salary.
2000-2999 Classified Personnel Salaries	This line item pays for the two site Technology Specialist's salaries.
4000-4999 Books and Supplies	This line item pays for infrastructure maintenance (hardware repair, etc...)
5000-5999 Services and Other Operating Expenditures	This line item pays for our contracted IT services from the Lemon Grove School District.
6000-6599 Capital Outlay	This line item pays for the two COWs and the 63 terminals.

Software Partnership with the Lemon Grove School District

Utilizing our contractual partnership with the Lemon Grove School District, we are able to purchase hardware and software from vendors with greatly discounted prices. Our current channeled vendor for software for example, SoftChoice, has already provided us with very competitive pricing schedules for Microsoft software.

Planning for IT Costs and Equipment Failures

Potential purchases beyond maintenance costs, utilizing Helix budgeted money, are approved by the school budget committee. It is the responsibility of the budget committee to oversee special projects funding, like the projects outlined in the goals of this document. However, again, our current funding situation is very apparent to the budget board, and the members see the importance of taking a very financially-conservative posture to such projects.

One of the benefits to maintaining such a large pool of computer and computer network equipment is the ability to reallocate resources should resources fail. The technology staff provides loaner equipment upon request (computers, projectors, printers, etc.), in order to minimize the net down time that the end users experience.

Helix IT staff are trained to assess the computing power of the various platforms and models of computer workstations around the campus. When certain equipment is deemed no longer compatible with the network configuration in place (referred to as “legacy” equipment at such a point), it is processed for “retirement.”

As an integral piece to our current inventory management system, equipment is given six digit ID number tags (“G numbers”) from the Grossmont District warehouse before reaching Helix. As an inventoried item in the Grossmont database, all equipment deemed no longer suitable for use is “retired” to the Grossmont District warehouse. The Grossmont District then proceeds to dispose of the equipment. This process is necessary to ensure congruency between inventory records kept at the District and the actual site inventory.

TIMELINE OF SUGGESTED ACTION STEPS

Action Step	Person Responsible	Completion Date
Identify all costs associated with implementing each component.	Michael Ewing	4/1
Identify the current budget for implementing each component.	Michael Ewing	4/1
Identify established and potential funding sources, present and future.	Michael Ewing	4/1
Consider options for reducing costs.	Michael Ewing	4/1
Develop and implement annual budgets for the term of the plan (three to five years).	Michael Ewing / Court Levy	4/1
Provide for ongoing technical support.	Michael Ewing / Court Levy	4/1
Plan for the obsolescence of equipment.	Michael Ewing / Court Levy	4/1
Establish a feedback loop to monitor and improve progress.	Michael Ewing / Court Levy	4/1

MONITORING AND EVALUATION

Staff feedback is the driving force behind the actions of the Helix technology department. Our most frequently used form of communication and feedback with Helix staff members starts with www.helixcharter.net/techservicesform. The school currently employs an automated web mailer system that allows staff members to send technology work orders directly to the Outlook-enabled desktops of IT staff workstations. Microsoft Exchange server allows proxy access to user mailboxes; technology department staff members are able to share scheduled calendar events, contact lists, and task lists. Helix IT staff members communicate with work order requesting staff members via Email after the initial web form contact.

The charter board at Helix is in constant interaction with the Helix IT staff. The site Technology Coordinator for the school is also a member of the charter board. The board is very aware of where the IT department stands in terms of funding. The board is also updated regularly as to the status of projects ongoing for the IT department. In the next several years, the Helix charter board will play an increasingly involved role in the modification and progression of the technology plan. Should network services at Helix be jeopardized by inadequate funding, the charter board (in cooperation with the budget committee) has the ability to make whatever funding provisions necessary to keep the campus fully functional.

COMPONENT V: MONITORING AND EVALUATION

ASSESSMENT OF NEEDS AND RESOURCES/monitoring and evaluation

Technology Plan Goals Progress Monitoring

It is the responsibility of the site Technology Coordinator to provide adequate monitoring and analysis of the needs of the department heads at Helix. Since each department head is responsible for developing curriculum for their subject matter in cooperative efforts with the rest of the department members, the department head is responsible to report their professional development needs to the technology department. It is the duty of the Technology Coordinator, in cooperation with the rest of the Helix technology staff, to provide sufficient technical expertise to reach the goals of integration.

Goal E-1: Establish a system of CTAP survey and data collection/assessment		
Objective 1 of 1: Determine a regulated system of surveying the teacher population at Helix using the CTAP resources online.		
End of Year 1: Have collected data on 75% of the staff members for the first year of CTAP surveying.		
End of Year 2: Have collected data on 100% of the staff members for the second year of CTAP surveying.		
End of Year 3: Continue to collect data on 100% of the staff members for each consecutive year of CTAP surveying.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
N/A	Quarterly	N/A

Goal E-2: Establish a system of Citrix Metaframe terminal usage		
Objective 1 of x: Integrate the Citrix Metaframe XP auditing and report features into daily data collection.		
Objective 2 of x: Compile the audited data into a series of databases that can be queried.		
End of Year 1: Have compiled one solid year of Citrix Metaframe network usage data for future processing.		
End of Year 2: Have compiled two solid years of Citrix Metaframe network usage data for future processing.		
End of Year 3: Have compiled three solid years of Citrix Metaframe network usage data for future processing.		
Evaluation Instrument	Schedule for Evaluation	Program Analysis and Modification Process
The Citrix Metaframe XP auditing and reporting features (Michael Ewing)	Quarterly	N/A ... data will be collected constantly, and will assist the ExL/Technology Study Center project

The progressive implementation of new technologies into curriculum will be monitored by the communication between the Technology Coordinator and the Department Chairs. The Principal sees this implementation, and the evaluation of such efforts, as the responsibility of the Technology Coordinator to the rest of the staff. The Technology Coordinator provides the Principal with periodic updates of the successes and failures of technology-curriculum implementation.

The Department Chairs will ultimately be responsible for their own department members' technological implementations into curriculum; however the Helix IT staff members will support the ventures of integration to the best of their abilities.

Data Sources, Collection, and Assessment

One of our staff members is dedicated to the roles of student achievement data collector and assessor. In cooperation with her, the Helix IT department will sample data results from the CAHSEE, SAT-9, etc... Additionally, other data-based indicators will be processed, including dropout rate patterns, increased attendance, and overall system usage.

It has already proven obvious to a technology-hungry staff that the implementation of this plan's goals will benefit the student learning experience. Besides the additional COWs and terminals slated for installation in ExL, the infrastructure to Helix already supports a highly technology-curriculum integrated environment. The closer that the school becomes to a 2:1 student to computer ratio, as evidenced by the successes of the Project LemonLINK, the better performing and more technologically-savvy the student population will directly become.

TIMELINE OF SUGGESTED ACTION STEPS

Action Step	Person Responsible	Completion Date
Review the implementation monitoring process included under each component of the plan.	Michael Ewing	4/1
Determine how to evaluate the impact of technology on student learning.	Michael Ewing	4/1
Research and consider monitoring and evaluation tools provided at little or no cost to the school district.	Michael Ewing	4/1
Design a schedule for evaluating the effect of plan implementation while realizing that infusing technology into daily school operations is an evolving process.	Michael Ewing	4/1
Determine how and when the results of the monitoring process and evaluation will be used.	Michael Ewing	4/1

APPENDIX A:**SITE NETWORKS AND CONNECTIVITY QUESTIONNAIRE**

- A. Is the school site connected to the Internet by a permanent (non-dial-up) connection?

Yes.

- B. If so, how is your school connected to the Internet?

Helix Charter High School has a fiber-optic connection into the Lemon Grove School District, which is serviced by Cox Communications.

- C. Do you know the speed of your connection?

The fiber-optic connection is rated by Cox Communications and identified by LemonLINK as a 45mbps/155mbps "burst" data transfer rate.

- D. What is the total number of classrooms that are connected to the Internet by a permanent (non-dial-up) connection?

100% of all of the classrooms at Helix Charter High School have at least one 100mbps Ethernet drop, connected to the school network. Each building has its own IDF in which the building distribution panels and Cisco switches are mounted.

- E. Who is the school's Internet service provider?

Helix Charter High School is contracted with LemonLINK for a package of IT services. One of those services is our Internet connection, which is provided by Cox Communications.

- F. How many site telephone lines are available for use?

8

- G. How many hours is the school library open?

Monday through Friday, 7am to 4pm.

APPENDIX B:**EFFECTIVE COLLABORATIVE STRATEGIES WITH ADULT LITERACY PROVIDERS TO
MAXIMIZE THE USE OF TECHNOLOGY**

The Helix Adult School is managed by the Grossmont Union High School District – the Helix Charter does not include the Adult school in its realm of administration. Therefore, Helix Charter High School currently has no plans, for now or in the future, to invest resources in areas of adult literacy in the community.

APPENDIX C:**EFFECTIVE RESEARCH-BASED METHODS AND STRATEGIES**

Helix Charter High School's current implementation of technology is a result of the culminated efforts of teachers and IT staff alike. The goals that were considered and compiled in this tech plan document were the result of a pool of individuals with a variety of technical and educational experience backgrounds.

Additionally, it is necessary to site appropriate reference material by other education-technology specialists. Cited below are various pieces of verifiable reference material that fortifies our position and intentions utilizing technology.

TITLE: Getting the Most from Technology in Schools

AUTHORS: Noel White, Cathy Ringstaff, and Loretta Kelley

ABSTRACT: The overall spending of school districts on technology has been gradually increasing over the years. The authors of this document have written a very informative piece of literature, discussing different studies conducted on students and the effect of a technology-driven curriculum to student progress. It is stated well in one sentence, "...students who had access to computers in their classrooms showed more improvement in basic skills than those who received instruction in computer labs." It also talks about the importance of dedicating resources to professional development, when the traditional viewpoint is that the majority of available funding should be spent on infrastructure (hardware, software).

RELEVANCE TO HCHS TECH PLAN: This document was an excellent source of reference material, based upon case studies of other field experts. It speaks directly to the goals of professional development, and serves as a reminder that a solid, high-performance infrastructure is useless without the user's knowledge to utilize it. Our current infrastructure in place is much more powerful than the staff, in general, is currently making use of. This serves as a perfect opportunity to dedicate more resources to professional development, as the infrastructure does not need any more upgrades at this time.

TITLE: Teaching with Technology: Creating Student-Centered Classrooms

AUTHORS: Judith Sandholtz, Cathy Ringstaff, and David Dwyer

ABSTRACT: There is a five stage model of the evolution of instruction in technology-driven classrooms. The model is composed of the "entry" stage, followed by the "adoption" stage, the "adaptation" stage, the "appropriation" stage, and finally ending with the "invention" stage.

RELEVANCE TO HCHS TECH PLAN: The evolutionary model of instructors utilizing technology-rich classrooms also caters to our goals of professional development. The education of the Helix staff members in technology is an investment in the future curriculum planning of the school. Only through this education can negative attitudes of teachers toward technology be curbed and raise the overall "level" of evolution our staff members relate to.

APPENDIX D:**EETT PLAN COMPONENTS CHECKLIST**

**Enhancing Education Through Technology Formula Grant Program
Criteria for EETT-Funded Education Technology Plans**

1. PLAN DURATION		Adequately Addressed	Not Adequately Addressed
a. The plan should guide the district's use of education technology for the next 3-5 years.	3	The benchmarks and timelines in the plan outline activities and strategies for the next 3-5 years.	The benchmarks are not associated with any particular timeline or the timeline is less than 3 years or more than 5 years in length.

2. STAKEHOLDERS Corresponding EETT Requirement(s): 7, 11,	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. Description of how a variety of stakeholders from within the school district and the community-at-large participated in the planning process.	5	The planning team consisted of representatives who will implement the plan, including district curriculum and information technology staff, site administrators, teachers, students, parents, community non-profits and businesses. If a variety of stakeholders did not assist with the development of the plan, a description of why they were not involved is included.	Little evidence is included that shows that the district actively sought participation from a variety of stakeholders.

**Enhancing Education Through Technology Formula Grant Program
Criteria for EETT Funded Education Technology Plans**

3. CURRICULUM COMPONENT	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. Description of teachers' and students' current access to technology tools both during the school day and outside of school hours.	8	The plan describes the technology access available in the classrooms, library/media centers, or labs for all students, including special education, GATE, English Language Learners, etc., both during and after school hours.	The plan explains technology access in terms of a student-to-computer ratio, but does not explain if computers are in the classrooms, library/media centers, or labs, who has access, and when various students and teachers can use the technology.
b. Description of the district's current use of hardware and software to support teaching and learning.	9-10	The plan describes the typical frequency and type of use (technology skills/information literacy/integrated into the curriculum) generally by type of school and/or academic subject.	The plan recites district policy regarding use of technology, but provides no information about its actual use.
c. Summary of the district's curricular goals and academic content standards in various district and site comprehensive planning documents.	8	The plan references other district documents that guide the curriculum and/or establish goals and standards.	The plan does not reference district curriculum goals.
d. List of clear goals and a specific implementation plan for using technology to improve teaching and learning by supporting the district curricular goals and academic content standards.	13-14	The plan clearly identifies grade levels, subjects, or student populations that will be the focus for the term of the plan. The plan delineates clear, specific and realistic goals for using technology to support the district's curriculum goals and academic content standards to improve learning. The implementation plan clearly supports accomplishing the goals.	The plan suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.
e. List of clear goals and a specific implementation plan as to how and when students will acquire technology and information literacy skills needed to succeed.	13-14	For the focus areas, the plan delineates clear, specific and realistic goals for using technology to help students acquire technology and information literacy skills. The implementation plan clearly supports accomplishing the goals.	The plan suggests how technology will be used, but is not specific enough to determine what action needs to be taken to accomplish the goals.

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3. CURRICULUM COMPONENT, Continued	Page in District Plan	Adequately Addressed	Not Adequately Addressed
f. List of clear goals and a specific implementation plan for programs and methods of utilizing technology that ensure appropriate access to all students.	15	For the focus areas, the plan delineates clear, specific and realistic goals for using technology to support the progress of all students, including special education, GATE, English Language Learners, etc. The implementation plan clearly supports accomplishing the goals.	The plan suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.
g. List of clear goals and a specific implementation plan to utilize technology to make student record keeping and assessment more efficient and supportive of teachers' efforts to meet individual student academic needs.	14	The plan delineates clear, specific and realistic goals for using technology to support the district's student record-keeping and assessment efforts. The implementation plan clearly supports accomplishing the goals.	The plan suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.
h. List of clear goals and a specific implementation plan to utilize technology to make teachers and administrators more accessible to parents.	13-15	The plan delineates clear, specific and realistic goals for using technology to facilitate improved two-way communication between home and school. The implementation plan clearly supports accomplishing the goals.	The plan suggests how technology will be used, but is not specific enough to know what action needs to be taken to accomplish the goals.
i. List of benchmarks and a timeline for implementing planned strategies and activities.	16	The benchmarks and timeline are specific and realistic. Teachers, administrators and students implementing the plan can easily discern what steps will be taken, by whom, and when.	The benchmarks and timeline are either absent or so vague that it would be difficult to determine what should occur at any particular time.
j. Description of the process that will be used to monitor whether the strategies and methodologies utilizing technology are being implemented according to the benchmarks and timeline.	17	The monitoring process is described in sufficient detail so that who is responsible, and what is expected is clear.	The monitoring process is either absent, or lacks detail regarding who is responsible and what is expected.

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4. PROFESSIONAL DEVELOPMENT COMPONENT Corresponding EETT Requirement(s): 5 & 12.	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. Summary of the teachers' and administrators' current technology skills and needs for professional development.	18-19	The plan provides a clear summary of the teachers' and administrators' current technology skills and needs for professional development. The findings are summarized in the plan by discrete skills in order to facilitate providing professional development that meets the identified needs and plan goals.	Description of current level of staff expertise is too general or relates only to a limited segment of the district's teachers and administrators in the focus areas or does not relate to the focus areas, i.e. only the fourth grade teachers when grades 4-8 are the focus grade levels.
b. List of clear goals and a specific implementation plan for providing professional development opportunities based on the needs assessment and the Curriculum Component goals, benchmarks, and timeline.	20-23	The plan delineates clear, specific and realistic goals for providing teachers and administrators with sustained, ongoing professional development necessary to implement the Curriculum Component of the plan. The implementation plan will clearly supports accomplishing the goals.	The plan speaks only generally of professional development and is not specific enough to ensure that teachers and administrators will have the necessary training to implement the Curriculum Component.
c. List of benchmarks and a timeline for implementing planned strategies and activities.	24	The benchmarks and timeline are specific and realistic. Teachers and administrators implementing the plan can easily discern what steps will be taken, by whom, and when.	The benchmarks and timeline are either absent or so vague that it would be difficult to determine what steps will be taken, by whom, and when.
d. Description of the process that will be used to monitor whether the professional development goals are being met and whether the planned professional development activities are being implemented in accordance with the benchmarks and timeline.	25	The monitoring process is described in sufficient detail so that who is responsible and what is expected is clear.	The monitoring process is either absent, or lacks detail regarding who is responsible and what is expected.

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5. INFRASTRUCTURE, HARDWARE, TECHNICAL SUPPORT, AND SOFTWARE COMPONENT Corresponding EETT Requirement(s): 6, & 12.	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. Describe the technology hardware, electronic learning resources, networking and telecommunication infrastructure, physical plant modifications, and technical support needed by the district's teachers, students, and administrators to support the activities in the Curriculum and Professional Development Components of the plan.	3-4 26-28	The plan clearly summarizes the technology hardware, electronic learning resources, networking and telecommunication infrastructure, physical plant modifications, and technical support proposed to support the implementation of the district's Curriculum and Professional Development Components. The plan also includes the list of items to be acquired, which may be included as an appendix.	The plan includes a description or list of hardware, infrastructure and other technology necessary to implement the plan, but there doesn't seem to be any real relationship between the activities in the Curriculum and Professional Development Components and the listed equipment. Future technical support needs have not been addressed or do not relate to the needs of the Curriculum and Professional Development Components.
b. Describe the existing hardware, Internet access, electronic learning resources, and technical support already in the district that could be used to support the Curriculum and Professional Development Components of the plan.	3-4 26-28	The plan clearly summarizes the existing technology hardware, electronic learning resources, networking and telecommunication infrastructure, and technical support to support the implementation of the Curriculum and Professional Development Components. The current level of technical support is clearly explained.	The inventory of equipment is not by site or is so general that it is difficult to determine what must be acquired to implement the Curriculum and Professional Development Components. The summary of current technical support is missing or lacks sufficient detail.
c. List of clear benchmarks and a timeline for obtaining the hardware, infrastructure, learning resources and technical support required to support the other plan components.	29-30	The benchmarks and timeline are specific and realistic. Teachers and administrators implementing the plan can easily discern what needs to be acquired or repurposed, by whom, and when.	The benchmarks and timeline are either absent or so vague that it would be difficult to determine what needs to be acquired or repurposed, by whom, and when.
d. Description of the process that will be used to monitor whether the goals and benchmarks are being reached within the specified time frame.	29-30	The monitoring process is described in sufficient detail so that who is responsible and what is expected is clear.	The monitoring process is either absent, or lacks detail regarding who is responsible and what is expected.

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6. FUNDING AND BUDGET COMPONENT Corresponding EETT Requirement(s): 7, & 13.	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. List of established and potential funding sources and cost savings, present and future.	34-38	The plan clearly describes resources* that are available or could be obtained to implement the plan. The process for identifying future funding sources is described.	Resources to implement the plan are not identified or are so general as to be useless.
b. Estimate implementation costs for the term of the plan (3-5 years).	36-37	Cost estimates are reasonable and address the total cost of ownership.	Cost estimates are unrealistic, lacking, or are not sufficiently detailed to determine if the total cost of ownership is addressed.
c. Description of the level of ongoing technical support the district will provide.	37-38	The plan describes the level of technical support that will be provided for implementation given current resources and describes goals for additional technical support should new resources become available. The level of technical support is based on some logical unit of measure, such as number of computers.	The description of the ongoing level of technical support is either vague or not included; is so inadequate that successful implementation of the plan is unlikely, or is so unrealistic as to raise questions of the viability of sustaining that level of support.
d. Description of the district's replacement policy for obsolete equipment.	37	Plan recognizes that equipment will need to be replaced and outlines a realistic replacement plan that will support the Curriculum and Professional Development Components	Replacement policy is either missing or vague. It is not clear that the replacement policy could be implemented.
e. Description of the feedback loop used to monitor progress and update funding and budget decisions.	40	The monitoring process is described in sufficient detail so that who is responsible, and what is expected is clear.	The monitoring process is either absent, or lacks detail regarding who is responsible and what is expected.

*In this document, the term "resources" means funding, in-kind services, donations, or other items of value.

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7. MONITORING AND EVALUATION COMPONENT Corresponding EETT Requirement(s): 11	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. Description of how technology's impact on student learning and attainment of the district's curricular goals, as well as classroom and school management, will be evaluated.	41-42	The plan describes the process for evaluation utilizing the goals and benchmarks of each component as the indicators of success.	No provision for an evaluation is included in the plan. How success is determined is not defined. The evaluation is defined, but the process to conduct the evaluation is missing.
b. Schedule for evaluating the effect of plan implementation.	41	Evaluation timeline is realistic.	The evaluation timeline is not included or indicates an expectation of unrealistic results that does not support the continued implementation of the plan.
c. Description of how the information obtained through the monitoring and evaluation will be used.	42	The plan describes a process to report the monitoring and evaluation results to persons responsible for implementing and modifying the plan, as well as the plan stakeholders.	The plan does not provide a process for using the monitoring and evaluation results to improve the plan and/or disseminate the findings.

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8. EFFECTIVE COLLABORATIVE STRATEGIES WITH ADULT LITERACY PROVIDERS TO MAXIMIZE THE USE OF TECHNOLOGY Corresponding EETT Requirement(s): 11	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. If the district has identified adult literacy providers, there is a description of how the program will be developed in collaboration with those providers.	45	The plan explains how the program will be developed in collaboration with adult literacy providers. Planning included or will include consideration of collaborative strategies and other funding resources to maximize the use of technology.	There is no evidence that the plan has been, or will be developed in collaboration with adult literacy service providers, to maximize the use of technology.

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9. EFFECTIVE, RESEARCHED-BASED METHODS AND STRATEGIES: Corresponding EETT Requirement(s): 4 & 9	Page in District Plan	Adequately Addressed	Not Adequately Addressed
a. Description of how education technology strategies and proven methods for student learning, teaching, and technology management are based on relevant research and effective practices.	46	The plan describes the relevant research behind the plan's design for strategies and/or methods selected.	The description of the research behind the plan's design for strategies and/or methods selected is unclear, unreliable, or missing.
b. Description of thorough and thoughtful examination of externally or locally developed education technology models and strategies.	46	The plan describes references to research literature that supports why or how the model improves student achievement.	No research is cited.
c. Description of development and utilization of innovative strategies for using technology to deliver rigorous academic courses and curricula, including distance learning technologies (particularly in areas that would not otherwise have access to such courses or curricula due to geographical distances or insufficient resources).	46	The plan describes the process for development and utilization of strategies to use technology to deliver specialized or rigorous academic courses and curricula, including distance learning.	There is no plan to utilize technology to extend or supplement the district's curriculum offerings