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# LaunchPad: Using students-owned computers in the classroom

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LAUNCHPAD:

USING STUDENTS-OWNED COMPUTERS IN THE CLASSROOM

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A Project

Presented to the

Faculty of

California State University,

San Bernardino

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In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Education:

Instructional Technology

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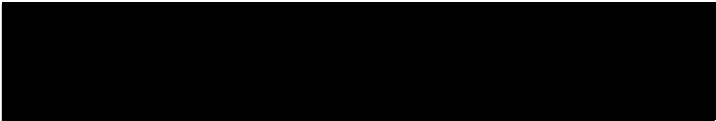
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Approved by:

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Sylvester Robertson, Second Reader

## ABSTRACT

The purpose of this project is to outline a pilot laptop program, hereby titled LaunchPad, which uses student-owned laptops in the classroom as a possible solution to inadequate computer lab space and limited technology funding. Included in this outline will be the steps taken to fully implement LaunchPad at any school, addressing the support needed by the administration, community, parents, and students. Among other information, it will also focus on how teachers deal with management and security, as well as what hardware and software requirements were given for the required laptops.

## ACKNOWLEDGMENTS

## DEDICATION

I dedicate this project to my loving wife, Elvi.
Thank you, Elvi, for your dedication, support, and
patience. Your ability to be a remarkable wife has
provided me the opportunity to extend my academic career.
I love you now and forever.

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# CHAPTER ONE

## BACKGROUND

### Introduction

The last twenty years have witnessed technology transforming our society. The possibilities achieved today were unlikely just a few years ago. This new electronic age has penetrated the way we work, shop, relax, communicate, and live. How has it affected education? The research supports that integrated technology in schools, supported by a well-rounded curriculum, have improved student creativity, critical thinking skills, and just as important, motivation. Most schools realize that the use of technology will not only promote learning and motivation, but also provide necessary skills for the changing job market. However, with little support and lack of funding, some schools are finding it difficult to use their limited technology effectively. The solution to this problem lies in not only finding new ways of getting technology into the classroom, but also creating a program to support and enhance the technology once there.

Chapter One presents an overview of LaunchPad, a program at Amelia Earhart Middle School (hereby after AEMS) in Riverside, California, where students are

instructed using their own laptops. Addressed in this chapter will be the contexts of the problem surrounding the need for technology in education. Also addressed will be the purpose, significance, and assumptions tied to this project. Finally, the limitations and delimitations that apply to the project are reviewed.

## Purpose of the Project

The purpose of this project was to address the need for integrated technology in schools by presenting LaunchPad as a means of implementing student-owned laptops in the classroom. LaunchPad, outlined in chapter three, requires very little financial investment and no additional classroom space from the school. Each step in the program is designed to be easy to understand and practical for most schools. The steps are organized so that viewers identify what LaunchPad is, what initial support is required to begin the program, and who is responsible for leadership and direction. Also, this project will address the laptops requirements and what to do about security and storage.

## Context of the Problem

The context of the problem surrounding this project is the lack of adequate technology in schools today. This

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problem encompasses many areas. More and more schools are finding it difficult to integrate technology into their curriculum where there exist clear challenges in finding adequate space for computer labs, as well as in acquiring any technology funding for purchasing, maintaining, and updating computers. In addition, many schools are not addressing national or state technology standards, which are now required for most state and federal funding. Also, with lack of technology in schools, students are not getting the required computer skills they need to be competitive in the job market. This places our students in a difficult situation where they must go outside of the school to get the necessary experience of working with technology.

Another problem is education's failure to adequately work with the community in helping acquire technology for students. Some schools are not even aware of the make-up of their community, let alone what it can provide or offer. With this breakdown, many possibilities through parents, local businesses, and other educational institutions such as colleges and universities go unchecked and unexplored. Often education tries to solve the problem of limited technology by writing more grants,

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spending money from other educational resources, or simply settling with outdated equipment.

The challenge many schools are faced with is finding new solutions to successfully address these issues. LaunchPad is one solution.

## The Significance of the Project

This project is significant in several ways. First, it offers a program to schools that focuses on not only motivating students with the use of integrated technology, but also foster learning opportunities beyond the classroom. With schools and parents researching for creative ways of getting students interested and involved in learning, LaunchPad provides the excitement and stimulation behind technology when used as a tool for creating, presenting, exploring, understanding. Secondly, this project outlines a program that is easy to start and can be implemented quickly without restrictions often associated with grants or other funding. This is important because it provides a simple and uncomplicated solution to schools needing technology. Also, this achieves the primary goal of getting student access to computers in the schools and home. Thirdly, the importance of this program is that it uses the community as a resource to solve the

problem of limited technology in schools. The significance
of this partnership is that it offers a reasonable
solution for schools that cannot afford technology, but
might have a student population with laptops, or the means
to obtain or purchase them. Finally, it pulls parents back
into the classroom and into their children's education and
makes them again a needed resource for education,
learning, and support.

## Assumptions

The following assumptions were made regarding the
project:

1.  The schools interested in this project have a
    clear need for integrated technology in their
    curriculum.

2.  The schools interested in this project would
    have the physical space for storage of laptops,
    interested staff that have some knowledge and
    experience with technology, and a supportive
    administration.

3.  The schools interested in starting LaunchPad
    have parents that are not only interested in
    having their child learn with a laptop, but also
    willing to purchase or locate a laptop.

## Limitations

During the development of the project, a number of limitations were noted. The following limitations apply to the project:

1. The project does not successfully address the issue of equity in the program. Namely, how students can still be part of the program if they do not have the money or resources.

2. The project does not successfully address the issue of theft or vandalism of the student's computers. Parents are ultimately responsible for any damage incurred to their child's laptop. This can lead to multiple problems if a laptop is damaged at school.

## Definition of Terms

The following terms are defined as they apply to the project:

Hypertext Links — Underlined phrases containing information that tell a browser exactly how to go to a computer that contains information you have requested (Pfaffenberger, 2002).

Internet — A connection of millions of computers around the world used by commercial industries,

corporations, educational institutions, and home
users to share software, messages, and information
(Goulekas, 2001).

LaunchPad - A pilot laptop program where students use
their own personal laptops to learn in the classroom.
The program is being offered at AEMS in Riverside,
California (Whiteford, 2000).

Technology-based Instruction - Training through media
other than the classroom. This includes computers,
but also refers to television, audiotape, videotape,
and print (Goulekas, 2001).

Organization of the Thesis

This project is organized into four chapters. Chapter
One provides an overview of the LaunchPad program and why
it plays a significant role in helping schools acquire
technology. Chapter Two shares the research surrounding
the use of technology in education. Most of the research
presented supports technology in the classroom as a
powerful tool for teaching and motivating students.
Chapter Three outlines the project design and offers a
systematic guide on how to begin a program like LaunchPad
that can be implemented at any school site. Included in
this chapter, is the process taken to garner support from

the administration, community, parents and students—as
well what the program does to prepare a school before
contacting parents. Also included is the successes and
limitations, how funding is addressed; how teachers deal
with management, and what requirements were given for the
computers and how necessary they were for success. Chapter
Four presents not only summaries the project, but also
presents several conclusions and recommendations found
while developing this project.

CHAPTER TWO

REVIEW OF THE LITERATURE

## Introduction

Much research has been conducted on how the use of
computers in the classroom affects different aspects of
education and learning. Most of the earlier studies
conducted on the use of technology in education were
conventional comparison studies (Gabel, 1994). These
studies offered limited data on how effective integrated
technology is in education. More recently, as technology
has become more prolific in both society and education,
numerous studies have shown that the use of instructional
technologies in the classroom does provide certain
benefits over other conventional methods of instruction.
The LaunchPad program supports this conclusion. Over the
past two years, the program has observed a clear increase
in student motivation, interest, creativity, and
organization while using their laptops during instruction.

## Increased Motivation

The most common teacher-reported effect on students
who use technology is an increase in motivation (Gardner,
1994; Rockman et al., 1998). The participants in Toshiba's
Notebook For Students (NIFS) associated with the *Anytime*

*Anywhere Learning Program* sponsored by Microsoft (Fall,

1996) had consistently witnessed enhanced engagement,

improved understanding and increased motivation in

teachers and students, and even showed research to support

such a claim. Many studies pointed to and included

positive comments by teacher and parents regarding

motivation (Gardner, 1994; Rockman et al., 1998):

> Technology is the ultimate carrot for students.
> It's something they want to master. Learning to
> use it enhances their self-esteem and makes them
> excited about coming to school. --fifth grade
> teacher

> The computer has been an empowering tool to the
> students. They have a voice and it's not in any
> way secondary to anybody else's voice. It's an
> equal voice. So that's incredibly positive.
> Motivation to use technology is very high. --
> high school teacher

Lumley and Bailey, in their study conducted in

several schools, found that classrooms that used a lot of

technology did increase student motivation (1991). Their

study also found that students became more engaged with

the curriculum and lessons in class. Finally, their study

concluded that students' interest in technology was a

factor in increased student questioning, completion of

homework, and low student discipline.

Student Learning

More than just motivation, student who use technology in the classroom seem to have an advantage in their ability to learn and understand. Technology integrated classrooms, unlike traditional teacher centered classrooms, create a learning community with positive results on student's outcome (Bruder, 1996). Educators who work with laptops have begun to explore their unique advantages. Studies in public school settings produced evidence showing that increased access to information offered by technology in the classroom had clear effects on students' learning (Strommen & Lincoln, 1992; Isernhagen, 1999).

Technology use through research, presentations, communication, experimentation, and simulated experiences has been shown to strengthen student understanding and awareness (Amico, 1995; Morella, 1999). Students, even at the elementary school level, are able to acquire an impressive skill level with a broad range of computer software. Technology that is fitted to curriculum and instruction can stimulate the development of higher-order thinking and problem-solving skills, and it can support collaborative and globalized learning (Kulik, 1994). For example, student projects such as Web Quests guide

students through information gathering and make their searching more efficient (Dodge, 2000).

A recent survey of parents in over thirty-four states conducted by the Milken Family Foundation found that students with computers in the classroom did show improvement in basic research and writing skills (Milken Family Foundation, 2000). When technology is used as a tool to support students in performing authentic tasks, the students are in the position of defining their goals, making decisions, and evaluating their progress (Kulik, 1994).

Computer assisted learning (Kulik, 1994) has been shown to have a strong positive effect on student learning. On average, Kulik reported that students learn more than 30-percent faster in computer-assisted learning environments, as compared to traditional school environment. On average students learn somewhat better in a computer-assisted learning environment. They showed an average improvement of .35 standard deviations, which moved their scores from the 50th percentile to the 64th percentile.

Additional research has supported Kulik's findings. Sandholtz, Ringstaff, and Dwyer (1997) reported on a ten-year study of the Apple Classroom of Tomorrow (ACOT).

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This extensive study provides strong evidence that a one to one computer ratio, substantial staff development, and the empowerment of teachers to make changes in curriculum and instruction can lead to major improvements in student retention of knowledge, attendance, and learning. This study is backed by Rockman et al. (1998), who reported on a major multi-school project in which each student has a laptop. The results that are emerging in this longitudinal study are consistent with the ACOT results.

In their study of laptop use in middle school science classrooms, Fisher and Stolarchuk (1998) found that those laptop classrooms in which skills and the process of inquiry were emphasized had the most active impact on student learning and attitude. According to Rockman et al. (1998), a majority of teachers in laptop schools reported an increase in both their use of cooperative learning and project-based instruction strategies. Digital content enables students to seek and manipulate digital information in collaborative, creative, and engaging ways, all of which foster learning (CEO Forum, 2000). As students are using technology as a tool, or a support for communicating with others, they are in an active role rather than a passive role as a recipient of information transmitted by a teacher, textbook, or broadcast. The

student is actively making choices about how to generate, obtain, manipulate, or display information (Kulik, 1994).

The 1999 Laptop Learning Challenge sponsored by Toshiba and the National Science Teacher's Association (http://www.nsta.org) recently recognized innovative uses of laptops in K-12 mathematics and science education. Some award-winning ideas showed students using laptops to facilitate group work, to analyze data immediately during a lab exercise, and to conduct scientific investigations in the field rather than in the classroom. Evaluators of the Copernicus Project, a multi-district laptop pilot program in Seattle, Washington, found laptops to be especially suited for writing activities, student projects, and presentations (Fouts & Stuen, 1997). They also found that the technology allowed students to correspond via email with many outside resources, such as local universities, museums, and science organizations for research. In short, students wanted more learning on particular subjects than their classroom assignment and projects allowed.

Student Standardized Testing

Although the body of research is still growing, studies have supported the positive effect of technology

on student testing. For example, in his study of a laptop pilot program in Beaufort, South Carolina, Stevenson (1999) reported that students with laptops demonstrated a "sustained level of academic achievement" during their middle school years, as opposed to students not using laptops, who tended to decline during this same period. He also noted that these academic benefits were most significant in at-risk student populations. Further research finds similar results. In 1990, the school district of Union City, New Jersey, was on the verge of being taken over by the state because of poor test scores and weak student attendance. As a last desperate effort, they decided to partner with Bell Atlantic in a project that would supply nearly all their students with computers. Carrigg and Ramella (1996) found that reading scores on the state standardized test for 8th graders had improved in four years by 53.6 percent, writing scores by 42.9 percent, and math scores by 29 percent. The students, on average, outperformed those in other urban districts in the state by thirty points. Similar studies suggest technology in the classroom not only transforms the very achievement of our students (Strommen & Lincoln, 1992; Huges & Hewson, 1999; Morella, 1999), but also generates

significant improvement on student test scores (The Educational Testing Service, 1998).

## Summary

The literature important to the project was presented in Chapter Two. It reveals that technology in the classroom does have positive effects on students. The one benefit found overwhelming in these studies was student motivation. It has been shown that students who use technology as part of their learning are more engaged, on task, and stimulated to learn.

Another benefit revealed in the literature was student's learning. Technology use through research, presentations, communication, experimentation, and simulated experiences has been shown to strengthen student understanding and awareness as well as basic skills. As students are using technology as a tool, or a support for communicating with others, they are in an active role rather than a passive role as a recipient of information transmitted by a teacher, textbook, or broadcast. Also, the technology is allowing students the opportunity to participate in learning experiences outside the classroom. LaunchPad, again, shares all of these conclusions.

Finally, the research reveals that technology supports student testing. A variety of tests studies supported the conclusion that students who use technology do perform better, in some case, on standardized testing.

# CHAPTER THREE

## PROJECT DESIGN

### Introduction

Chapter Three documents the steps used in developing the project. Specifically, it provides a step-by-step guide for schools to follow if they want to implement LaunchPad at their site. The site map (see Appendix A) functions as a graphic organizer and will help you understand the overall structure of the program.

### What is LaunchPad?

LaunchPad is a program that utilizes student-owned laptop computers in the classroom as a tool to enhance student learning. LaunchPad's overall objectives are to:

- Encourage critical thinking

- Nurture creative thinking

- Increase student motivation

- Improve writing

- Develop organizational skills

- Extend curriculum

### Does the Curriculum and Instruction Differ?

LaunchPad uses the same curriculum as other conventional classes. The curriculum, including all

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California State Standards, drives the technology.

However, technology gives LaunchPad classes opportunities

to present information in a variety of formats, explore

different ways of accessing information, and creates a

climate, which allows students to reflect and

problem-solve efficiently. Students in this program have

the opportunity to continue technological processes

started at school with their own laptop. Students publish,

e-mail, access the Internet for research, develop study

skills, and organize data and text.

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Starting the Program:
School Organization

</div>

Before a school approaches the students and parents

about this program, several preparation steps are

required. These include the following:

Needs Assessment

Before a school can begin a program like LaunchPad,

it must assess whether or not it has a clear need for such

a program. It must have a need to use technology in

classrooms as part of a fully integrated technology

program. For example, before AEMS started LaunchPad, it

knew that it wanted technology as a way to increase

student-learning, motivation, and meet national technology

standards. It had clearly established that it had a need.

However, without technology funding, AEMS wanted to explore ideas like LaunchPad where the technology would come from the parents, with little funding or additional resources coming from the school.

The steps involved in the needs assessment begins with a collaboration of teachers, administration, and other non-teaching staff addressing the question of why they would need or even want student-owned laptops at their site. The process continues until the school, as a consensus, finds that use of student-owned laptops would clearly meet a need the school might have.

Most schools would easily find a need for technology in the classroom. However, is it important to take the time and evaluate why, as well as how, technology will promote success for student learning? An assessment enables a conversation to take place that identifies what skills, knowledge, and resources are required to successful integrate technology at a school. It is also an opportunity to consult with a variety of people within a school and consider their opinion.

Mission Statement

Take the time to define the motivation for instituting a laptop program. The mission statement used for LaunchPad (see Appendix B) is designed to provide a

clear vision for the program. A strong mission statement will help guide and direct a school with a vision of where the program is headed. Be sure to provide a copy for the staff, the support team, the district, the students, and the parents.

## School Resources

After a school establishes a need for technology, it is important to begin assessing what resources a school has to support a student-owned laptop program. For instance, how many teachers at the site would be interested—or possibly excited—to teach a class where students have their own laptops.

Before anything, it is vital to establish administration support, both from the school site and district level. This will not only establish a foundation from which to build all other resources, but also provide the required permission for a program of this type.

## Establishing a Laptop Team

Next, the task of setting up a laptop team involves finding staff members at a school that are interested in using technology in their classroom and willing to try new programs. The laptop team will be responsible for organizing, directing, and guiding the program. They will serve the leadership role in every aspect of planning.

Aside from teachers, the team should consist of some administrators, such as a principal, vice-principal, counselor, or school CPS. Because on-site technology support is one aspect that should be considered in addition to the hardware needs, it is necessary that at least one member on the team have advanced technology experience and knowledge.

Teacher Support

Teacher support and involvement is crucial to this program. One kind of support is teachers helping teachers, especially when it comes to learning and understanding teaching with technology. This type of support can be in the form of one teacher working with another teacher one-on-one, teachers experienced in technology willing to lead workshops or training sessions after school, or community members, such as parents, donating time assisting with technology at your school. Prior to the beginning of the school year, it is vital to have technology support available as the individual computers are checked in and software is installed.

Some teachers might be interested in being part of the program, but not part of the laptop team. This is fine. Because this program relies on support and "buy-in", it is important to include these teachers in some way. For

example, after school these staff members can be helpful in assisting students with hardware problems, typing, or any other challenge that would make the transition of learning with a laptop easier.

All teachers that take part in a program like LaunchPad must realize the kind of commitment they will be involved in. The success of the program relies on finding teachers that have a positive attitude toward technology and are willing to try something both challenging and new.

Interested teachers must realize that it is the unique assignments offered to the class using technology that leads to the credibility and distinctiveness of the program. In other words, some teachers that start the program might undergo a type of paradigm shift in the way they instruct and present information. In addition, as in all teaching, it is the teacher who impacts the student. This program needs staff who understand effective teaching, have at least a basic understanding of technology, are willing to look at new ways of presenting material, and most importantly are willing to empower students to become the leaders of learning with the use of technology.

## Counselor Support

Involve the counselors or individuals who schedule classes at the school. This person(s) must have a clear understanding of the program, so they can properly field questions from parents and place the proper and qualified student into the technology classes. It is very difficult for teachers to manage a class with half of the students using laptops and the other half not. Therefore, the challenge for the counselors, along with the laptop team, will be keeping as many LaunchPad students centralized in one class if possible.

## Power Supply

Power strips with surge protectors are necessary for the program. Even when students keep their batteries charged, they need back up. Power strips are one of the only initial investments a school needs to make to begin the program. With the parents' investment into this program, only settle for the highest quality of surge protection. Quality is needed to protect the investment the parents have given in their donation of the laptops. A small investment in this equipment will show attention to detail and demonstrate responsibility and care of the computers to the students and parents alike. It will also prevent unforeseen damage to the laptops that are more

commonly seen with cheaper supplies. Also, teachers need
to develop a plan for storing, and managing these surge
protectors on a daily basis.

Internet Access

Although it is not required to start the program,
having resources for Internet access in classrooms would
add depth to any laptop instruction and planning. If
students are able to connect to the Internet with their
computers in each classroom, activities such as research,
electronic portfolios, and simulated lessons, among
others, could be possible. With the Internet, schools must
consider student supervision and a clear Internet use
contract students will be required to sign.

Identify Contact Person

A strong laptop program will depend on a contact
person to provide information to the community, and
facilitate any general questions or concerns. For example,
this person might answer any specific questions parents
have, communicate the status of the program to groups such
as the Parent Teacher Association, School Site Council, or
even at staff meetings, and be willing to speak to any
outside groups that want more information about the
program. With such a large investment by the parents, the

contact person makes sure any concerns, questions, or uncertainties by the parents are addressed.

Another side to the contact person's job is to share the program with groups and businesses that can provide resources in the future. For instance, at AEMS, the contact person was able to get support from two local businesses that committed to purchasing future surge protectors the program might need. Keep in mind, this individual should understand the scope and goals of the program, be familiar with technology jargon, and be able to offer examples of how the technology will be integrated into the curriculum. This contact person does not need to lead the program, just be the liaison to the parents and community. Select a person who is enthusiastic and looks at problems constructively.

## Security and Storage

Because this program relies on the investment of thousands—even hundreds of thousands—of dollars from the parents in the form of laptops, security and storage is of the utmost importance. First, the students will not use their laptops in every class. For example, it would be very difficult for students to safely use their laptops in physical education, where the environment does not support the safety and protection of laptops. AEMS only allows

student in the program to have their laptops in English, history, science, and math. Each school must decide for themselves, which class or subjects they feel comfortable and safe having the laptops in.

Second, when students are not using their laptop for a class, at lunch, etc. they need to have a central place to safely store them. The best place for this is a designated classroom. For instance, at AEMS each student stores their laptops in the classroom of their English teacher, allowing this teacher the control to monitor the laptops as they come and go. The classrooms that students are storing their laptops in must have enough cabinet space or storage capability to safely hold these computers. Also, any type of storage must be able to securely lock. This provides safety and avoids theft in the event that a teacher must leave the room or if a student must store laptops overnight. Schools can purchase portable storage cabinet that can easily store laptops of a variety of sizes. Again, safety is a priority. As such, portable storage cabinets that lock must be used if a school does not have adequate storage space in classrooms. This will insure the safety and security of all the laptops, and make the parents feel comfortable in the program.

Next, because students use will use their laptops for note taking, daily lessons and homework, they will be required to take their laptops home each day. For this reason, adult supervision before and after school, and when students are leaving and returning their laptops would be necessary. This can be in the form of parent volunteers or other teachers that are interested in helping the program. This is one more protection step that will help ensure the safety and security of all the student's laptops.

Finally, all students need to have their laptop cases and all peripheral equipment clearly labeled with their name. This will prevent other students from taking their laptop accidentally. This label should be universal and provided by the school. The label must be durable enough to withstand day-to-day wear.

## Laptop Requirements

Outlining minimum laptop specifications is essential for parents before they consider purchasing a computer. All the hardware and software recommended requirements are listed below. Keep in mind, these requirements are not set in stone. If parents choose to purchase a top of the line laptop, that is fine. These requirements represent the

minimum specifications recommended to parents who not only want to be in the program, but also plan to have their child use the laptop in the future. Parents can purchase a laptop with specifications that are lower than what the programs suggestions. However, as AEMS experienced with several students in this situation, older and slower laptops run into problems with loading some educational software, saving, and speed working with multiple programs. In other words, any students with a laptop is welcome in the program, the minimum hardware requirements below only act as a suggested starting point for parents:

Minimum Hardware Requirements

- 64 MB RAM

- 2GIG Hard Drive

- Service plan (warranty plan of some type)

- 233 MHz processing speed

- 3.5" floppy internal and CD-Rom internal

- Ethernet card (10/100) and 56K modem

- 2 Batteries and AC adapter

- Quality Laptop carrying case is a requirement (not a suggestion)

Minimum Software Requirements

- Microsoft Office 97 or newer

Multiple Parent Contacts

Informational Meetings

After a school has laid the foundation for the program, and has the people and resources in place, it can then introduce the program to the parents. With the program depending on students-owned laptops, parent interest and support is critical. The informational meetings allow parents to question, interject concerns, and share their input while staff spend time and address their ideas. It is also a chance for the school to assess the interest parents have for a program of this type. As such, the amount of interest and commitment parents can offer will be identified. These meetings directly reflect the interest and number of incoming students, the number of classes needed, and the required teachers the program will need to have. A possible agenda for the first organized meeting could include the following:

1.  Welcome: General introduction and greeting.

2.  Administrator: Discuss the idea for LaunchPad, goals, and objectives.

3.  Contact Person: Introduce all the staff that will be working together on the project, their title and experience with education.

4. Teacher 1: This individual will explain who can join the program (any students will a functioning laptop), what hardware and software requirements are recommended, and security and storage issues.

5. Teacher 2: This person will acknowledge the expense the parents are asked to invest and outline a plan to protect the equipment (in other words, how the school plans to safely and securely store the laptops). This person informs the parents that their child must take responsibility for their actions, and be careful as well as safe with their equipment. Finally, this person reminds parents that insurance or a maintenance contracts for their child's laptop is highly recommended.

6. Teacher 3: This individual will outline several available resources for parents looking for a laptop. In other words, this person provides a list of bargains (see Appendix C) for all the parents who are interested in the program but do not have a laptop.

7. Laptop team: The group will answer any questions left that parents may have.

8.  Dismissal and Pre-registration

### Program in Place

As soon as a school has enough interest to start with
at least one student-owned laptop class, several things
must be taken into consideration as the program begins.
These include:

Expectations

Expectations and responsibilities for the laptop
students will be much greater than students in
conventional classrooms. Teachers will expect them to pull
out power strips for each table, set up laptops, plug them
in and turn them on by the time the tardy bell rings. This
requires students to arrive quickly from their previous
class and spend little time visiting. Students must be
responsible for taking care of their laptop at all times.
Students should not be allowed to use "technical problems"
as an excuse for not having work done on time. If there
truly is a computer problem, then the students need to
learn how to deal with this and have a back-up plan.
Students are expected to have their laptops with them
everyday just as they are expected to have paper and
pencil. The clean up process should not take more than a
few minutes at the end of the period as they need to place

equipment away quickly, quietly, and neatly. These processes should become routine within the first few days of school.

First Four Weeks

Laptop programs need a structured routine. The program must develop habits of organization and instruct students in specific use of their computer as it relates to the task at hand. It is important to spend some time having the students explore what is on their computers and the fundamentals of how "things" work. This can be done both as a directed lesson and as part of their homework. When planning the first few days of class, students should use a variety of processes on their computers like: typing in different fonts, utilizing the editing processes, learning to cut and paste, seeing what the undo arrow will do, etc. All tasks can be done throughout the process of assignments given for subject areas involved, but it does take planning. If students are not proficient on the keyboard, require outside typing practice at home with some form of typing software.

Rules

A program of this kind relies on guidelines and rules to function properly. This provides safety, comfort and a positive environment for all students, and helps assure

parents that the program has structure and a course of action if students break the rules. In order to ensure this success, specific rules and a possible behavior contract (see Appendix D) must guide the program. The students and the student's parents then sign this contract. AEMS has established a "three strikes" policy. If any LaunchPad student breaks one of the established rules, they get a strike on their student contract. By the third strike the students, his/her parents, the principal, and members of the LaunchPad team evaluate whether or not the student should remain in the program. The final decision of the student's status in the program is made by the principal and LaunchPad members. While each school must establish their own set of rules that they find appropriate and necessary, examples of possible rules include the following:

1.    All LaunchPad students will show respect to other students and not play with or touch anyone else's computer.

2.    All LaunchPad students must not bring any outside software to the classroom.

3.    All LaunchPad students will not play music or computer games during class.

4.   All LaunchPad students are responsible for the
     maintenance of his/her own equipment, including
     a fully charged battery.

## Program Evaluation

There are two program evaluations that are essential
for the future success of the program. First, a parent
evaluation survey (see Appendix E) will help a school
understand specific areas that parents find integrated
technology is benefiting the student, and allow parents
the opportunity to voice their opinion. This will serve as
an incredibly valuable tool for modifying any problems or
concerns. Next, the school itself needs to evaluate the
success of the program from observations in class and
attempting to answer how the program benefits student
motivation and learning. Results of these different
evaluations will allow the program to evolve into
something that has a rich balance of input from a number
of areas.

### Parent Evaluation

A LaunchPad survey (see Appendix E) was given to the
parents of AEMS students in the LaunchPad program for the
past two years. During the middle of the first year
seventy-five surveys were handed out with 38 returned.

During the second year at roughly the same time, one hundred and twenty surveys were handed out and sixty-two were returned. Combining the result of both surveys and counting only the scores of 4 or 5 as 'agree' on a Likert Scale with 1 representing 'strongly disagree' the result of the surveys were favorable. 80% of the parents found that there was an increase in their child's motivation to learn after being in the program. In fact, the program has received phone calls from parents who were delighted by their child's enthusiasm. Several parents even noted that they were the ones that had to initiate the discontinuation of learning on several nights. The parents noted that the students became so engrossed in creating geography charts in Microsoft Paint, working on creative essays where they could include graphics and charts, building web maps in Inspiration or PowerPoint, that they had to be reminded to go to bed or to eat dinner.

In terms of productivity at home, 69% of the parents believed that the LaunchPad Program had increased their child's ability to finish and complete homework; 80% of the parents believed that the laptops had helped their child's organizational skills.

In the survey, parents had the opportunity to include comments, suggestions or concerns. One of the 8th grade parents stated:

> This Program turns my son on to school. He seems to have a new motivated outlook on education. Using technology in the classroom, and then teaching and sharing this information at home, has helped to increase [my child's] motivation, confidence and self-esteem.

Two separate 7th grade parents wrote:

> This program has given my child more motivation, and more self-confidence. This program has been a very positive experience for my child, which has made my husband and me very happy.

> The LaunchPad program has motivated my daughter to learn, explore, and apply what she had learned about technology in a non-threatening atmosphere.

Teacher Evaluation

During the first two years, AEMS has only subjectively evaluated the LaunchPad program by in-class observations from teachers. By their account, it has been successful in multiple areas. For example, most teachers are reported a clear increase in motivation with students who use the technology as well as an increased ability to manipulate information and data in ways not witnessed in their other conventional classrooms. This has been observed in the three 7th grade LaunchPad history classes, where students created a weekly web page (see Appendix F)

related to the history unit they studied. The weekly web pages were designed to show mastery of standards in language arts and history. The assignment allowed students to incorporate historical concepts into a functional model showcasing their learning. On the home page, the students summarized the week's work, and provided links to vocabulary, a map, a timeline, notes, a dialectical journal, and a culminating assignment, such as a PowerPoint slide presentation or an essay. The web pages became part of their electronic portfolio. These teachers found that the technology allowed the students to analyze and present the information at a very high level. They also found that the web pages challenged the students to present their work in a variety of new and innovative ways. Finally, each teacher reported that the interest of this type of assignment was so high that every student completed all the requirements for the project.

The 8th grade math teacher in LaunchPad at AEMS noticed that technology usage allowed more students to be actively thinking about information, making choices, and executing skills when continually collaborating than is typical in teacher-led lessons. She also found that integrated technology provided opportunities that go far beyond the classroom and the textbook.

With LaunchPad, many opportunities become available to students. For example, LaunchPad teachers and students were selected to present the results of LaunchPad at the 2001 National Educational Computer Conference in Chicago. In addition, LaunchPad students competed for "best" web page at the state level for National History Day in 2001 and 2002, and received high honors and marks. As part of a class assignment, students from LaunchPad participated in the California Technology Assistant Project Showcase for two successive years. They also had the opportunity to present their classroom technology in front of state legislators, state educators, and businessmen. In addition, a number of LaunchPad students presented at the 2001 California Association for the Gifted (CAG) convention. At the conference, students focused on elaborate webquest projects they had created that met the 7th grade California standards in history and English. Finally, two LaunchPad teams won first and second at the Environmental Expo Technology Showcase at California State University, San Bernardino. Like others, the requirements for this showcase were incorporated in classroom lessons. All of these examples highlight how this program has served as a success for both the students and school.

Teachers in the program have also observed an improvement in overall student writing and typing skills (the average speed being 45 words a minute), ability to successfully finish projects, and ability to stay on task. One teacher wrote, "The laptop class has been wonderful. I no longer need to struggle with students to complete a challenging assignment. The technology enhances their learning by keeping them engaged."

Future Questions

Future evaluation of the program needs to ask questions that are more specific about how the technology is being used. The answers to these questions will offer a better understanding of not only the effectiveness of the technology, but also where teachers can concentrate their attention. Although AEMS has not yet addressed these questions, it has focused on future evaluations of LaunchPad by framing the following questions to each teacher at the end of each semester:

1. Did students in LaunchPad know how to use a variety of resources on the Internet? Did students in LaunchPad use the Internet to effectively gather and evaluate information, create new ideas, projects, etc., and

disseminate their findings/ideas with others using a variety of technologies?

2. Did students in LaunchPad examine, create, and use databases for meaningful interpretations, presentations, and planning? For science, did students in LaunchPad collect, organize, analyze, and represent physical data in laboratory and field settings, or manipulate information stored in a database to create and test hypotheses?

3. Did students in LaunchPad produce, edit and format writings and enhance documents for classroom needs, personal use and/or publications through appropriate word-processing and desktop publishing technologies and software? Did students in LaunchPad learn proper keyboarding techniques for efficient drafting, editing, and revision? Did students in LaunchPad use a word-processing program throughout the five steps of the writing process? Did students in LaunchPad produce documentation for publication and sharing using a desktop publishing program?

## Future Funding

Although the LaunchPad program at AEMS has had a great deal of success, without future funding possibilities in the future might be limited. In addition, without future funding the challenge of equity will always be an issue. Students who want to be in the program, but do not have the money to purchase a laptop will never have the opportunity to be a part of the powerful learning that LaunchPad demonstrates. With that said, there is a wide variety of funding that is ideal for LaunchPad (see Appendix G). This funding provides expanded possibilities on resources not available to a program based entirely on student-owned computers.

## Summary

As a program that uses student-owned laptops in the classroom, LaunchPad requires several steps to successfully put the program in place. Each step, from evaluating a school facility and finding interested teachers, to establishing laptop requirements and communicating this to the parents, plays an important role in maintaining the continuity of the program. These steps also assure the parents that this program is safe, organized, and secure.

Although LaunchPad does require a detailed process and a great deal of commitment, the results of this program have been remarkable and the effort is worth it. Students and teachers in LaunchPad have been part of numerous technology showcases and state-wide educational competitions. In addition, the enthusiasm for education is there, not only for the teachers, but for the students as well. "Homework" takes on a new definition and new found interest.

The future of LaunchPad does not rest with student-owned computers alone, but rather with funding. Only with funding such as grants and corporate sponsors will LaunchPad become a program where all students, not just the students who have a laptop, can benefit from its success. As funding, technology and education change, so will this program. It is the hope that with more funding for technology in education it will not be limited to those children with means, but to all students with a desire.

# CHAPTER FOUR

## CONCLUSIONS AND RECOMMENDATIONS

### Introduction

Every aspect of our life is affected by technology. Now more than ever, education is feeling the need and demand to integrate technology into every aspect of curriculum and instruction. However, with little funding or support, and lack of teacher training, some schools are finding it difficult to not only use technology effectively, but even acquire the necessary hardware and software.

The intent of this project was to provide schools with a different approach to acquiring technology. Included in this project were the steps taken to start a similar program at other schools. Some of these steps included: what the program needs to do to prepare a school before contacting parents; successes and limitations; how funding is addressed; how students and teachers deal with management and security issues; and what requirements were given for the laptops.

### Conclusions

Some of the major conclusions extracted from this project are as follows:

1. LaunchPad uses very little school funding and additional classroom space from the school.

2. LaunchPad requires student-owned laptops.

3. LaunchPad is relatively easy to implement and start.

4. LaunchPad parents found that the program does show some evidence of motivating their child to learn, in addition to helping them complete homework and stay organized.

5. LaunchPad provides students with learning opportunities outside of the classroom.

## Recommendations

The recommendations resulting from the project center around the follows areas:

1. LaunchPad must address the issue of equity among student who cannot afford laptops. This can be achieved by finding future funding to expand LaunchPad beyond student-owned computers.

2. LaunchPad requires a minimal amount of students to start. It would be ideal to start with at least one class size (roughly 30 students). The minimum would be around 20 students, or least amount allowed in one class. With less than

twenty students in the program, these students

would be placed in a regular, non-laptop class.

In this situation, it would be difficult for an

in-coming teacher to provide quality assistance,

as well as instruction and curriculum that would

be benefit both the LaunchPad and regular

students.

3.   In order to gather a more thorough assessment of

the success of LaunchPad, more comprehensive

ways must be found of evaluating student

achievement in term of critical thinking skills

and standardized testing. Ongoing evaluation

will make LaunchPad more successful and keep it

within stated objectives.

4.   A LaunchPad steering committee should be created

to organize the evaluation and future steps of

the program.

## Summary

Although this project does offer some challenges and

limitations, overall most schools should have the

available resources and parent support to begin at least

an entry level program much like LaunchPad. With students

depending on technological skills to lead them into

college and eventually the job market, education must consider new ways of getting technology into the hands of students. Although LaunchPad is not the only solution, it does make a committed effort to meet the challenges put forth by a lack of integrated technology. It also realizes that success with technology relies on an ongoing partnership between both the school and the community.

APPENDIX A

SITE MAP FOR STARTING

LAUNCHPAD

```
                    ┌─────────────────────┐
                    │     LaunchPad:      │
                    │  Bringing Personal  │
                    │  Laptops to School. │
                    │       handout       │
                    └─────────────────────┘
                              │
                              ▼
                    ┌─────────────────────┐      ┌──────────────────────────────┐
                    │   Needs             │      │ 1. Administration Support, Both│
                    │   Assessment:       │      │    at School and District     │
┌──────────────────┐│  Why Integrated     │      │ 2. Teacher Support            │
│ 1. Laptop Storage ││  Technology at      │      │ 3. Counselor Support          │
│ 2. Power Supply   ││  our School?        │      │ 4. ON-Site Technology Support │
│ 3. Internet Access│└─────────────────────┘      └──────────────────────────────┘
└──────────────────┘          │
          ▲       ┌──────────┐ │  ┌───────────┐  ┌──────────┐
          └───────│ Facility │◄┼──│  School   │──│  Staff   │
                  │Evaluation│ │  │Evaluation │  │Evaluation│
                  └──────────┘ │  │ handout   │  └──────────┘
                              ▼  └───────────┘
                    ┌─────────────────────┐
                    │      School         │
                    │  Organization on    │
                    │     Program         │
                    │      handout        │
                    └─────────────────────┘
```

| Identify a Contact Person | Mission Statement handout | Security and Storage | Identify Minimum Laptop Specifications handout | Identifying Quality Bargains on Laptops and Local Financing | Creating Handouts handout |

```
                    ┌─────────────────────┐
                    │      Multiple       │
       ┌────────┐   │      Parent         │   ┌────────┐
       │ Staff  │───│    Contacts for     │───│ Staff  │
       │Training│   │     Interest        │   │Training│
       │handout │   │      handout        │   │handout │
       └────────┘   └─────────────────────┘   └────────┘
                              │
                              ▼
                    ┌─────────────────────┐
                    │    Informational    │
                    │     Meetings        │
                    │      handout        │
                    └─────────────────────┘
                              │
                              ▼
                    ┌─────────────────────┐
                    │      Program        │
                    │     In-Place        │
                    │      handout        │
                    └─────────────────────┘
```

| First Four Weeks | Expectations | Rules | Storage | Security | Daily Routines |

```
      ┌──────────┐   ┌──────────┐   ┌──────────┐
      │Parent and│◄──│ Program  │──►│  Staff   │
      │ Student  │   │Evaluation│   │Evaluation│
      │Evaluation│   │ handout  │   └──────────┘
      └──────────┘   └──────────┘
```

APPENDIX B

LAUNCHPAD MISSION STATEMENT

## LaunchPad Mission Statement

AEMS will be a learning center where technology is successful integrated in all subjects on a daily basis. Students will learn skills needed to, not only survive, but also thrive in their world of changing work places. Students will be proficient in information literacy so they know how to research, compare information and integrate new information in their existing model. Students will be able to connect with others, to communicate effectively using whatever tools they have available.

Standardized test scores will increase and students will also develop skills not normally assessed by standardized tests. Students will also become more motivated and enthused to learn and understand subject material. They will take the initiative to use their laptop for self-instruction.

Teachers will structure assignments and curriculum to point the student outside of the textbook and classroom, becoming more student-centered and less teacher-centered. For instance, our students will actively work with businesses, museums, libraries, scientists and other students to collaboratively solve problems, answer questions, and ultimately shape curriculum through original research and published results that are of use to the agencies involved. We are working partners with our community, sharing knowledge and resources, enabling students to actively share in real-world experiences that best compliment school studies.

The LaunchPad program will encourage and facilitate parent participation in the academic preparation of our students. Parents will become online tutors and mentors, able to assist students with technology and other aspects of their education. They will accomplish this at home and through the Internet as an asynchronous and direct communication tool involving our student population. We will support a web site where parents are able to communicate with teachers and each other in sharing the responsibilities and joys of helping students learn.

APPENDIX C

BARGAINS FOR LAPTOPS

# BARGAINS FOR LAPTOPS

While some students might have access to a laptop, many more students will be looking to your school for help before purchasing one. There are a few resources that offer the best deals for parents who are looking for a laptop.

The bargains include:

1.	Buybacks – Many companies have buyback programs for their employees. Often companies will have a purchasing contract with a laptop supplier that allows them to either return the laptops after a certain period in exchange for new models or sell the laptops to their employees for a reduced price. This reduced price can be substantial. Check with family or friends to see if this applies at their work.

2.	Department store – Research the best bargains at local department stores, such as Circuit City, Best Buy, and so on. At times, these stores do have great deals.

3.	Computer fairs - You can often find excellent bargains at computer fairs where many of the laptops are of the same quality of major brand names. Most of the laptop companies at computer fairs do not have large overhead expenses and can stay below prices you would find at chain stores.

4.	On-line: Many online web sites offer excellent deals on laptops. Most computers manufactures provide their latest sales and incentives on their web site. Some of these include Dell, Micron, Gateway, Compaq, and Toshiba. Other webs sites that carry multiple brand names and have excellent deals on new and used laptops include:

	http://www.discountlaptops.com/

	http://www.itsnet.com/home/laptop/

APPENDIX D

STUDENT CONTRACT FOR LAUNCHPAD

# Student Contract for LaunchPad

Dear Parents:

LaunchPad is focused on providing a safe, comfortable and positive environment for your students. Along with students having every right to learn, we have the obligation to ensure that each and every one has the right to a quality academic experience. In order to ensure this success, we have created several LaunchPad rules aside from the teacher's classroom rules that guide the program. They include the following:

1.  All LaunchPad students will show respect to other students and not play with or touch anyone else's computer.

2.  All LaunchPad students must not bring any outside software to the classroom.

3.  All LaunchPad students will not play music or computer games during class.

4.  All LaunchPad students will keep their grades in each LaunchPad class at least a C (70%) or higher.

5.  All LaunchPad students will move carefully around the classroom to prevent inadvertent damage to equipment.

6.  All LaunchPad students are responsible for the labeling of his/her laptop computer and all accessories.

7.  All LaunchPad students must have their toolbars visible at all times.

8.  All LaunchPad students are responsible for the maintenance of his/her own equipment, including a fully charged battery.

9.  All LaunchPad students will print out hard copies of all assignments as instructed.

10. All LaunchPad students will maintain uniform desktop background and screensaver, as established by the program.

All students will get three consequences checks before they are evaluated for further status in the program:

1. __Student Initial __Parent Initial __Teacher Initial

2. __Student Initial __Parent Initial __Teacher Initial

3. __Student Initial __Parent Initial __Principal Initial

The bottom portion of this letter must be signed and dated by student and parents and returned to laptop teacher no later than _____.

**Student's Name:** _____

**Student's Signature:** _____   **Date:** _____

**Parent(s) Signature:** _____   **Date:** _____

Email Address: _____

APPENDIX E

LAUNCHPAD QUESTIONNAIRE FOR

PARENTS

# LaunchPad Questionnaire for Parents

Please answer the following questions:
(On a scale of 1-5; 1=not at all, 5=very much)

1. Has the LaunchPad Program at Earhart helped your child's ability to write?

   1          2          3          4          5          Not Sure

2. Has the LaunchPad Program at Earhart helped your child's motivation to learn?

   1          2          3          4          5          Not Sure

3. Has the LaunchPad Program at Earhart helped your child's ability to type and understand technology?

   1          2          3          4          5          Not Sure

4. Has the LaunchPad Program at Earhart helped your child's organizational skills?

   1          2          3          4          5          Not Sure

5. Has the LaunchPad Program at Earhart helped your child's ability to complete homework?

   1          2          3          4          5          Not Sure

6. Please offer any suggestions, concerns or comments about the program:

APPENDIX F

EXAMPLE OF WEEKLY WEB PAGE

# The Middle Ages
## Weekly Web Page

By: Chad Wilson
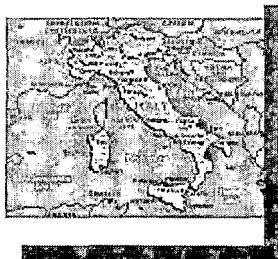Mr. Whiteford
7<sup>th</sup> Grade History Class

---

This week we have been discussing the Middle Ages. In class we have been analyzing the many characteristics that make the Middle Ages a unique and interesting time period. This period, also known as the Dark Ages, was about a thousand year, spanning from 480 to about 1450.

In class, we learned all about the dark plague. We also examined the dramatic impact the church had on the people and culture. This impact helped define who was ruling during this time. Finally, we explored the geography of Europe. In understanding the geography, we as a class, could appreciate the history, sites and location that we learned throughout the week.
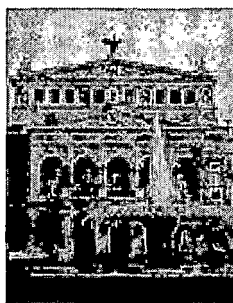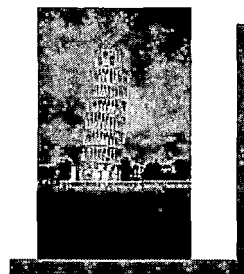
PowerPoint Slide



| Charlemagne as King | Middle Age Persuasive Essay | Class Notes |
|---|---|---|
|  |  |  |

APPENDIX G

FUTURE FUNDING SPECIFIC TO

LAUNCHPAD

# Future Funding Specific For LaunchPad

1. ocfo.ed.gov.grntinfo/forcast/forecast.htm

   Department of Education Advisory

2. ncbe.gwu.edu/new/funding.htm

   Summary site providing links to sources for federal funding opportunities in the U.S. relating to education of linguistically and culturally diverse students.

3. ed.gov

   DOE Special Demonstration Programs- Supports rehab and other services for K-12 students with disabilities.

4. ed.gov/Grant/Apps

   Use this link to get most updated table of funding opportunities. The following table is a sample of what this link displays.

5. nsta.org

   National Aeronautics & Space Administration/ National Science Teachers Association - Offers guidance to K-12 teachers with 3 years of experience on incorporating the national mathematics, science & technology standards into the classroom. Grant recipients receive travel, housing meal expenses for two weeks summer 2001 or 2002 at NASA field center.

6. nsf.gov/pubs/nsf98102/nsf98102.htm

   National Science Foundation (NSF) helps fund internet connections at K-12 schools. Cost-sharing grant will be reward "only highly innovative approaches such as microwave or wireless laser technologies". Typical awards are $15,000 over a two-year period. Consortia may apply for larger awards

7. cde.ca.gov/afterschoo

   California Department of Education funds to improve student performance in school and to provide a safe environment after school for students in grades K-9. A program must include and educational and literacy component to provide tutoring or homework assistance, and an enrichment component with recreation, prevention and youth development

8. christensenfund.org

   The Christensen Fund (TCF) supports schools (K- 12) related to its activities in the visual arts and natural sciences. Past support has provided grants for projects in the visual arts, such as support for high school computer graphics courses and renovation of a high school art studio. TCF has also funded primary schools arts education in conjunction with a major urban museum and with an art school. Typical award range is $2,500 - $5,000. - Due Date None

9. gte.com

   The GTE Foundation 's program Growth Initiatives for Teachers (GIFT) was established to promote the integration of math & science in the classroom, encourage innovative uses of technology in education & provide recognition & new opportunities for outstanding teachers for grades 7 to 12 Grants are awarded to a team of one math and one science teacher from the same secondary school who have developed school enrichment projects that integrate math and science and use technology in a creative way. Each winning team shares a $12,000 grant - $7,000 to implement the project and $5,000 for the participating teachers to pursue professional development activities.

10. Her.nsf.gov/HER/ESIE/award/core.htm

    Presidential Awards for Excellence in Math and Science Teaching recognizes exceptional K-12 math and science teacher nationwide in 4 categories: elementary math, elementary science, secondary math and secondary science. Four $7,500 awards given in each state, other generous fits to awardees; and expense-paid trip to Washington D.C. for award ceremony.

11. webcenter.hp.com/grants/us/k12/index

    Hewlett Packard's primary focus for K-12 education is on math and science literacy and increasing opportunities for women and minorities. HP's vision is to help students be prepared to succeed in the workforce of the future by making math and science exciting and meaningful., giving all students the opportunity to succeed, and helping every child enter school ready to learn. HP prefers to donate equipment rather than cash. Their website indicates no donation approval cycle or special forms required. - Due Date None

12. weingartfnd.org/ggap

    The Weingart Foundation's primary interest is grant making to assist credible agencies and institutions serving children and youth in the

Southern California area. Preferential attention will be given to the support of well conceived experimental or demonstration projects that promise significant positive results and are likely to produce long-term multiplier effects. First contact with this Foundation should be a brief, to-the-point "test letter." This letter should contain a concise - statement of the need for funds, the amount sought and enough factual information to enable the Foundation to determine its initial response three copies are required – Due Date None

13.  wellsfargofoundation=

Wells Fargo Foundation and its philanthropic goals and objectives are actively involved in the community where they do business and they believe that grant making decisions are more effect when made locally. Their primary focus is directed to Pre-Kindergarten through Twelfth Grade Education and special priority is given to requests whose primary purpose is to benefit low and moderate income individuals. See web site for "How to Apply/Proposal Checklist".

14.  woodrow.org/teachers

Woodrow Wilson National Fellowship Foundation supports teacher participation (grades 5-12) in environmental science and biology institutes. Awards cover all expenses related to participation. Participating teacher receive a $1,200 stipend.

15.  aolfoundation.org

The AOL Foundation sponsors the Interactive Education Initiative (IEI) Grants which provides teachers and educators with seed money to develop and implement unique, hands-on projects that help kids learn through integrating technology into their learning environment. The AOL Foundation formed the IEI grants to maximize the benefits of technology in the K-12 learning environment, identify best practices for using technology in schools, and create a network of education and . others dedicated to the use of computer technology in the classroom. Project teams can apply for grants of up to $7,500 to support creative ideas for integrating the internet into classrooms.

16.  att.co/learningnetwork

The AT&T Foundation supports programs that encourage family involvement in education, provide professional development opportunities for teachers, aide in the preparation of new teachers, and promote lifelong learning and community collaboration. This Foundation supports an approach that brings together students, teachers parents and institutions of learning and connects them with

technology. They encourage and support family involvement. They recognize the importance of well-prepared, highly motivated teachers and they support them at all levels. AT&T believes that learning is a lifelong process and that learning how to learn is an essential skill. They offer a variety of programs/funding for K-12 education. – Due Date None noted.

17. compumentor.org/cm/compumentor/default

CompuMentor is the largest nonprofit computer-ization assistance organization in the country. It has provided training and support services and low cost software to more than 6,000 nonprofits and schools across the country.

18. computerlearning.org/contests/n2h2.htm

The Computer Learning Foundation offers Building Effective Roadmaps for the Information Superhighway which promotes effective internet research skills and media literacy in K-12 education, N2H2, Inc. has introduced two contests in conjunction with the nonprofit foundation. The Curriculum Content requires entrants to submit an original curriculum for teaching students internet research skills, which should include lesson plans, handouts for students, worksheets, and other information that would enable the teachers to implement the curriculum in their classrooms. Awards include Windows-compatible computers, CD ROM records and $100 software gift certificates

19. corning.com/employment/quality

The Corning Foundation's areas of involvement have included community service programs, for students, curriculum enrichment, student scholarships, facility improvement and instructional technology projects for the classroom. Elementary and secondary schools are eligible for their grants. $2M is available for approximately 225 grants per year.

20. inspiration.com/schol_ship2.htm

Scholarships to educators (K-12) who champion visual learning and the meaningful use of technology in the classroom. Awards of $500 per teacher are awarded to support ongoing professional development in educational technology. (800) 877-4292

21. jdltech.org

JDL Technologies (Edina, MN) Great NEC Express 5800 K-12 WORLD Server grants provide level of Internet access schools couldn't afford on

their own. Awards are made to K-12 educational institutions only. 20 grants of approximately $10,000 each. (612) 946-1810 – Due Date None

22. Jumpstartchallenge.com

JumpStart 2000 award Program (Sponsored by PARADE and react magazines, the National Science Board, the governing Board of the National Science Foundation, in partnership with the White House Millennium Council) challenges K-12 student teams (with one adult coach) to use science and technology to create solutions for a better life in the 21st Century. Six winning teams will each receive $500 to create a demonstration of their solutions and travel to Washington, DC for an award's ceremony. (800) 991-1441

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