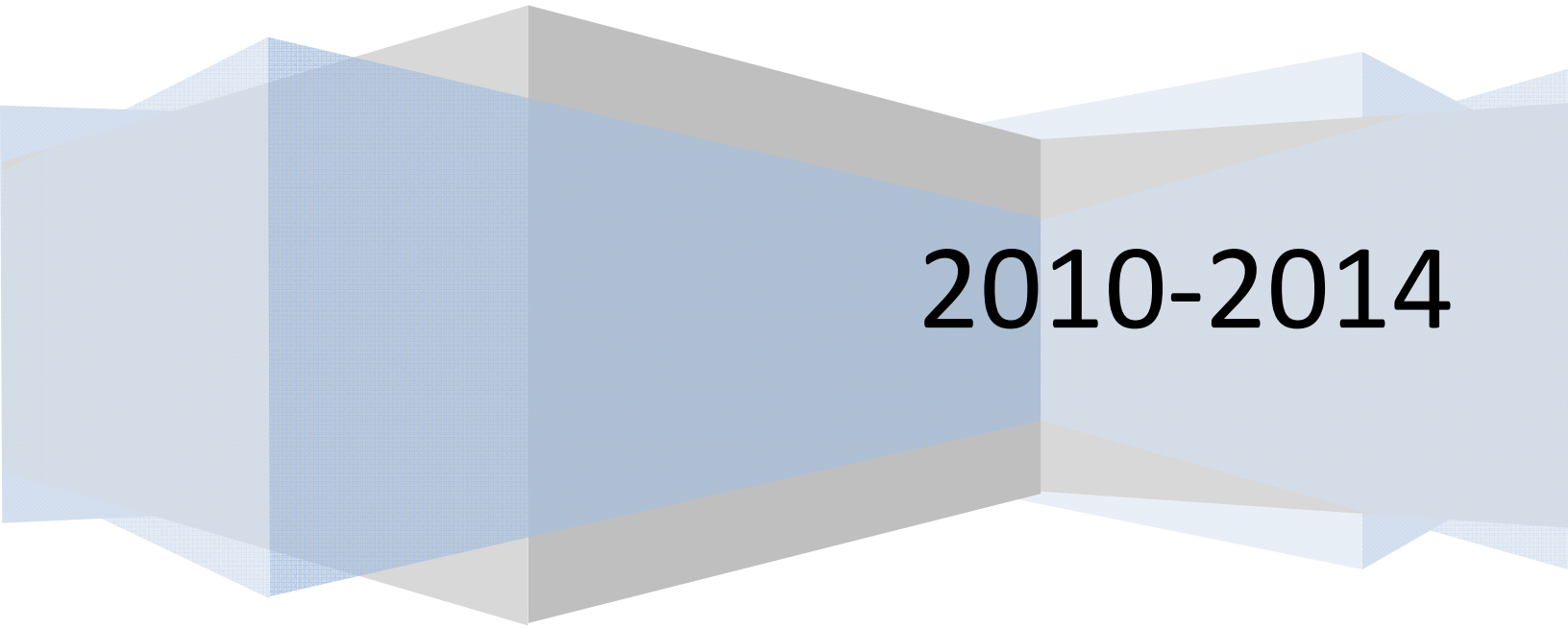
Clayton Valley High School

5 Year Technology Plan



2010-2014

Clayton Valley High School Technology Plan - January 2010

Plan Outline

In this plan we will first give a brief description of current technology use at Clayton Valley High School (CVHS). After describing current technology use, this plan will describe the four functional areas where there will be targeted increases in technology. The plan will then detail how technology will be implemented in the next five years in these three functional areas.

Current Technology Use

Currently CVHS has over 350 computers and at least one computer in each classroom, and has distributed laptops to many teachers. The laptops are one and half years old. The classroom computers are all at least four years old. Most teachers have 20 inch LCD monitors. There are 30 LCD projectors in use, with at least 12 of them in use at least once a week. Each classroom has a TV and DVD player. The TV's are of varying age and many need repair or replacement. Three teachers have Interactive Whiteboards (3 Starboards and 1 Hitachi). These same teachers have LCD projectors that are mounted, but the remaining teachers have desktop projectors that are in the range of two to three years old.

Functional Areas

In the design of a technical plan, there are four functional areas that can be used to simplify the analysis and decrease cross-dependencies. The areas chosen in this plan are Professional Development, Teacher Communication, Curriculum and Instructional Integration, and Student Learning Environment.

Professional Development

This functional area emphasizes strategies to develop ongoing and sustained professional development programs for all educators—teachers, principals, administrators, and school library media personnel. This area focuses on the educator learning to integrate technology into their curriculum. Professional Development training is the general method of increasing this knowledge, but there are self- learners of technology, that could, given resources and opportunity give instruction in-house create in-house instruction for teachers, principals, administrators, and library media personnel.

Teacher Communication and Collaboration

This functional area emphasizes technology that can dramatically increase teacher communication and collaboration. While telephones and e-mail have been used for some time, they are limited to person to person, and person to group type interactions. Face to face meetings provide a group of social interactions that cannot be made using e-mail and telephones, they limit communication because only single topics can be addressed, and everyone must focus on single personal communication to the group at a time. Social networking has become a major focus on the World Wide Web, and has been applied to teacher-to-student learning, but has been mostly ignored as a method to aid teacher to teacher collaboration and communication. This functional area would be targeted to increase web-based solutions to allow more varied interactions between teachers to achieve collaboration without the inherent limitations in time and space that face to face meetings incur.

Curriculum and Instructional Integration

This functional area specifically targets the development of strategies to integrate technology into curricula and teaching and also explores methods to promote teaching methods that are based on solid and relevant scientific research. This area focuses on teachers' use of technology to enhance instruction. This technology is generally thought of as hardware (interactive white boards, LCD projectors), it also has a software component that is not generally addressed.

Functional Areas (Cont.)

Student Learning Environment

This area emphasizes helping students use technology in ways that advance their understanding of the content in the state curriculum standards while improving their real-life problem-solving and inquiry skills. The environment should be one of shared learning and should be designed to enhance student academic achievement through scientifically based learning practices and modern technologies. This area focuses on students' use of technology and how it is used to enhance their learning process. A primary step in this area is to increase the number of computers available on campus so that students can use these modern technologies without being limited because of resource restrictions.

Technology	Current Use	Proposed Use	Pro's	Con's	Priority/ Cost
TV's Functional Areas: Student Learning Environment, Curriculum and Instructional Technology	In every classroom	Replace with Plasma or LCD televisions	Digital TV's can be larger and use one half as much power/same viewing area as CRT TV's. Digital TV's can be larger and can be hung on wall. Digital TV's have modern connections to multimedia devices.	All classrooms currently have working TV's, so they would have to be recycled. Easier to damage or steal because of lower weight and demand.	$600 per classroom/ 4
DVD Players Functional Areas: Student Learning Environment, Curriculum and Instructional Integration	Most classrooms have DVD players.	Replace damaged and missing DVD players	Every classroom should have minimal uniform technology.	Can be misused.	$100 per unit/4
Teacher Laptop Computer Functional Areas: Professional Development, Teacher Communication and Collaboration, Curriculum and Instructional Integration	60 teachers have laptop computers.	Increase number of teachers with laptops. Provide replacements when teachers laptops are damaged	Laptops provide mobility and are easier to secure than desktop computers.	Laptops are more expensive than Desktop computers and are more easily damaged or stolen. Computer interactions at home could put laptops at risk for viruses.	$500-$700 4 Not included in this is maintenance or software costs.

Technology	Current Use	Proposed Use	Pro's	Con's	Priority/ Cost
Social Networking Web Site Functional Areas: Professional Development Teacher Communication and Collaboration	Prototype web site is in use by teachers. Approximately 50% of teachers are using it	Enhance web site to include the ability to have groups of teachers working together and the facility for each teacher to be in multiple groups.	Enhanced communication. Allows teachers to communicate in a group without many of the negative aspects of face-to-face meetings.	New technology and some teachers do not accept change easily.	$50 per month. Someone willing to maintain the site.
Courseware (Moodle) or Teacher web sites Functional Areas: Professional Development, Curriculum and Instructional Integration, Student Learning Environment	We currently have a moodle site and one teacher using social networking software to maintain a student accessible web site. These web sites are maintained by teachers and the service provider is paid for by a local resident.	Train teachers on use of moodle to support classes and/or train teachers to develop their own web sites.	Large decrease in student handouts and copying costs. Allows student to get assignments via internet in case they missed class or lost assignment.	New technology and training would have to be provided. Difficult to get teachers to invest time in use even though benefits outweigh initial time.	Teacher training costs approximately $500 per teacher.
Student Teacher Workstation Student Learning Environment	Currently we have two computer labs and a mobile laptop lab. There are also 25 computers in the Library	Use nComputing devices to increase student to computer ration to 50%	Reduced power, easier replacement of computers.	Slight possibility high CPU use applications may not perform well enough.	$400 per 9 workstations. This does not include LCD monitor, keyboard and mouse.

Technology	Current Use	Proposed Use	Pro's	Con's	Priority/ Cost
Interactive Whiteboards (Smartboard or Hitachi Starboard) Functional Areas: Professional Development, Teacher Communication and Collaboration, Curriculum and Instructional Integration, Student Learning Environment	4 teachers have Starboards and 1 teacher has Hitachi Starboard	Increase teacher to 12 users in the next 5 years.	Ability to save lessons, and increased interactivity by students. More student engagement.	Large learning curve. Fixed placement of device.	Whiteboards cost approximately $1500 per classroom. If teacher does not have a mounted LCD projector another $2000 is necessary.
Classroom Response Systems Functional Areas: Professional Development, Teacher Communication and Collaboration, Curriculum and Instructional Integration, Student Learning Environment	Currently 3 teachers have clickers compatible with Examview and are using them in a variety of ways.	Increase the number of classroom sets to 10.	Clickers give the teacher the ability to give instant assessments. Students interact in answering questions. Clickers can speed attendance and homework recording.	Learning curve.	$2500-$3000 per classroom set.

Technology	Current Use	Proposed Use	Pro's	Con's	Priority/ Cost
RF Tablet Functional Area: Professional Development, Curriculum and Instructional Integration, Student Learning Environment	5 teachers have tablets. Two teachers are using tablets without interactive whiteboards.	20 teachers having tablet/LCD projector instead of interactive whiteboards.	Relative inexpensiveness versus interactive whiteboard. Does not require mounted LCD projector. Does not require large scale changes to classrooms. Able to be used anywhere in classroom rather than only from the front.	Not as intuitive to use as an interactive whiteboard.	$325/classroom.
Document Camera Functional Area: Professional Development, Curriculum and Instructional Integration, Student Learning Environment	Currently have 6 document cameras.	Add an additional 10 document cameras. Evaluate different vendors.	Allow student work or interactive content to be displayed.	Relatively high cost. Document viewing can be done with a scanner. Scanner has the advantage of having a document feeder.	
Printer Scanner Curriculum and Instructional Integration, Student Learning Environment	Every teacher has a printer. There are a limited number of scanners.	Replace existing printers with laser/scanner combinations. Purchase a few color laser printers.	Automatically grade multiple choice tests with either ExamView or EDUSOFT. Lower long range costs than ink jet printers	Higher initial cost than Ink Jet.	$200-$400. Black/White Laser Printers. $400-$600 for color laser jet.

Technology	Current Use	Proposed Use	Pro's	Con's	Cost/ Priority
Computers for Student Use Functional Area: Student Learning Environment, Curriculum and Instructional Technologies	Computers are available in the library.	Increase student available computers on campus. Provide at least 3 computers in each classroom for student use	Currently we have a 50 student to one computer ratio on campus.	Classroom space considerations.	$200/ workstation. $600 per classroom. Includes cost of LCD display, keyboard and mouse.
LCD monitors for teachers	Most teachers have 19-20 inch LCD displays.	Larger (22+) displays for teachers.	Easier to see, more workspace for lesson preparation. LCD displays released can be used for student workstations.	More desk space needed, higher costs.	$300/ Classroom
LCD projectors	Around 20% of teachers have LCD projector. 12 teachers are currently using LCD projectors on a daily basis	Increase use of LCD projectors for teachers.	Can display any image from teacher's computer. Computer presentation of classroom lessons is more engaging to students and reduces amount of teacher preparation time.	Teachers have to be trained on creating presentations and using technology in the classroom. Without other technology (interactive whiteboard, remote writing tablet) cannot interact with technology.	$600 Classroom /5
Mounted LCD Projectors	For those teachers who use LCD projectors on a daily basis,	Provide secure and stable environment for LCD projectors	Setup time and the possibility of damage or theft is reduced. Decrease of eye damage because light is not straight on.	Change of location and maintenance is more difficult.	$1000 per classroom/5

Technology	Current Use	Proposed Use	Pro's	Con's	Priority/ Cost
Teacher Computers Functional Areas: Professional Development, Teacher Communication and Collaboration, Curriculum and Instructional Integration	Every classroom has at least one computer.	Start replacing computers on a classroom by classroom basis.	Provide each classroom with a computer for exclusive teacher use.	Laptops could be used by teacher and provide a way they can work away from the classroom. Desktops are less secure because then cannot easily be put in a secure location.	$300-$500/ 4 Not included in this is maintenance or software costs.

Technology Plan for Each Year in Period

2009-2010

- Purchase Flat panel televisions for each classroom
- Mounting of flat panel televisions for broadcast
- Purchase 6 Hitachi LCD projectors
- Replace 3 portable LCD projectors with short throw LCD projectors and mount in classrooms of teachers who are using LCD projectors daily.
- Order replacement bulbs for existing LCD projectors and smart board projectors
- Interactive Whiteboard training session
- Wireless networking
- Replace computers in library with eComputing servers.
- Target two classrooms with eComputing servers.
- Purchase 5 eInstruction Mobi wireless drawing tablets for use in targeted classrooms.
- Purchase 5 document cameras.
- Investigate TI NSpire calculator integration in Math and Science Classrooms
- Investigate need for dedicated computers for Interactive Whiteboards
- Investigate need for academic library search system.
- Investigate electronic media presentation devices

2010-2011

- Depending on trials from previous year purchase 5 eComputing servers in targeted classrooms to increase student to computer ratio.
- Depending on trials from previous year purchase 5 eInstruction wireless drawing tablets.
- Purchase 5 document cameras.
- Purchase 3 Interactive Whiteboards for targeted classrooms along with short throw LCD projectors.
- Begin 3 year cycle to replace outdated computers on campus.
- Purchase high end computers for specific roles.
- New Windows operating system campus upgrade
- Interactive Whiteboard training session
- eInstruction Mobi Training.
- Implement classroom with TI NSpire calculators
- Continue previous years' investigations of new technology.

2011-2012

- Purchase short throw LCD Projectors with target of replacing mobile LCD projectors with classroom wall mounted units.
- Purchase LCD projectors
- Continue purchase of new computers and Windows upgrade.
- Depending on previous years evaluations add additional student computers using eComputing devices..
- Purchase Interactive Whiteboards, wireless drawing tablets, TI NSpire calculators contingent on previous years evaluations
- Continue ongoing training of staff with new technologies
- Continue ongoing investigation of new technology.

2013-2015

- Software adoption purchase
- Microsoft office
- Continue purchase of new computers and Windows upgrade.
- Depending on previous years evaluations add additional student computers using eComputing devices..
- Purchase Interactive Whiteboards, wireless drawing tablets, TI NSpire calculators contingent on previous years evaluations
- Provide ongoing training of staff with new technologies

Information Needed for Further Development

- Yearly Tech budget
- Prices for install of ceiling mounted LCDS and Interactive Whiteboards
- Total number of LCDS working, not working, needed
- Price of replacement bulbs
- How to get money or time for paid training of technology
- Total number of computer stations on campus
- Can money got toward paying for tech support