

ARP Action Plan

The Environment

Valley Catholic School is a grade 7-12 private Catholic middle and high school of 500 students located in Beaverton, Oregon. The school promotes a college prep curriculum and most of the students are involved in the acclaimed music and athletic programs. The school community draws students from families that work in the high tech industry in Oregon (Intel, Tektronics, and Nike) as well from the neighboring Catholic elementary schools. There are about 25 full time faculty members and 15 administrative and support staff.

All students are required to complete one semester of computer applications (keyboarding, Word, Excel, and PowerPoint) but may choose to enroll at anytime during high school. As a result, the class is made up of students in grades 9-12, all with various degrees of computer experience. To meet the graduation requirement students must also complete one other computer elective: Newspaper/Web Design, Graphic Design, Digital Video Production, and/or Yearbook

Previous to my teaching of the computer applications course, students would work independently through a textbook at their own pace, focusing on specific computer skills using Microsoft Word, Excel and PowerPoint. When I took over the curriculum 6 years ago, I changed the instruction to whole class instruction and integrated student-created projects into the curriculum, but still relied heavily on the DDC textbook for the scope and sequence of skills.

I am the Computer Department Chair and I teach almost all of the computer courses (except Yearbook). There are three full-time tech support personnel who maintain the network for the entire campus which consists of a convent, pre-school, grade school, middle/ high school, and nursing home.

The computer lab where I teach is brand new. There are 30 new Dell desktop computers, all with firewire, DVD-RW capabilities and hi speed Internet. There is a teaching station hooked up to an Infocus projector. In the lab, there is also a scanner, two digital cameras, six digital camcorders, and two printers. There is a second computer lab that teachers may use with their whole class and there are also 15 more computers in the school library.

Valley Catholic School is fairly traditional. Some teachers integrate technology into the curriculum but many of the courses use a traditional lecture format. Other departments expect that students already have the required technology skills for class even though the students can choose to take their technology credits at any time during their schooling.

The Problem

The challenges in the Computer Applications course are to make the learning of the technology skills relevant to the student's experience but also authentic. One problem is that computer skills are taught in isolation. The assignments in the textbook are situated in a business environment. Many of high school students can't relate to the book assignments and find them tedious. Individual projects are incorporated into the instruction for genuine practice but still, the tasks seem phony and made up. Students are not engaged in the assignments and often need to be reminded to take the projects seriously.

One of the reasons for this is that unlike a subject area course, the focus of the projects is on the technology skills, not on the subject content. It is challenging to create technology projects that have purpose and are authentic without relying on a specific subject matter. Another issue is presenting and creating authentic assignments that are motivating to a high school student and do not duplicate something they have already experienced in another class. Currently, students work on individual projects and there is little group work or discussion about the learning process. The computer curriculum is not set by a school district or board, so there is flexibility for content changes and curriculum. Assessment is another issue. Creating rubrics or authentic assessments that appropriately evaluate skills is difficult.

Brief Literature Review of Problem

Student engagement is the key to success and achievement in school. When students are given opportunities to participate in real world experiences, when they are asked to critically investigate issues and ask probing questions, and when they are given open-ended, interesting learning opportunities they will be motivated to learn. Students who are engaged in the instructional process are more likely to maintain an interest in what they are studying than are those who are passive recipients of a prescribed curriculum. Teachers can promote higher order thinking by infusing instruction with opportunities for students to read widely, to write, and to discuss. Educators must employ a variety of instructional strategies to meet the needs of differentiated classrooms and insure a classroom environment that is conducive to learning.

Students in technology-rich classrooms learn how to find information, ask questions, assess sources, hypothesize and communicate effectively – all skills needed for workers in the 21st century workplace. Technology tools can promote communication within and outside the classroom and make it easier for feedback, reflection and revision to occur. Technology's

pervasive use across almost all aspects of modern life – including business, industry, communication and entertainment – warrants continued efforts on the part of educators to prepare students for participation in a technological world. All students should have the opportunity to attend dynamic, high quality schools that are designed to engage students in authentic learning experiences to meet the challenges of the “Digital Age”.

Addressing the Problem

My plan is to change how computer skills are taught in my introductory Computer Applications course. Instead of teaching individual lessons and focusing on teaching specific computer skills in Word, Excel and PowerPoint, I plan on creating several authentic long-term projects and we will use technology tools to investigate those topics. Specific themes have not yet been chosen but some that I am considering are:

- Exploring careers
- Teen athletes, competition & steroid use
- History of our community
- Global warming and what can we do about it
- Teen issues: school stress, drug use, sleep deprivation
- Digital storytelling with the elderly
- Personal finance
- History of music

My idea is as the students explore the themes in small groups; they will engage in a variety of research techniques and use the scaffolding of the Big6 model. I want to make sure there is a “real world” component and have students use Web 2.0 tools (blogs, wikis, social bookmarking) for metacognitive reflection and interaction. I hope to give students choice in choosing (at least) one of the themes and will involve them in making decisions on how to best share the information.

I will continue to make sure that students are exposed to a variety of technical skills. Students could possibly use Word to create documents (outlines, flyers, mail merge letters, and/or newsletters) related to the theme and use Excel to collect data, use formulas to analyze the information and graph the results. PowerPoint can be used to share the information or create interactive presentations.

What data can you gather to determine a “before” picture?

Curriculum:

- Current syllabus of Computer Applications course
- Copies of textbook lessons
- Samples of student work (from textbook and projects)
- Samples of quizzes and Unit Test

Student attitudes and engagement:

- Video of direct instruction
 - Determine time on task
 - Determine who is actively engaged
- Survey of student's attitudes
- Student interviews
- Teacher observations on blog

What data can you gather to determine the effects of the changes you have made?

Curriculum:

- Proposed syllabus of Computer Applications course
- Description of Authentic Projects
- Pre & Post questionnaires about thematic topic
- Basic computer skill pre & post test
- Samples of student work
- Student wiki, del.icio.us bookmarks

Student attitudes and engagement:

- Video/or observation of instruction or group work
 - Determine time on task
 - Determine who is actively engaged
 - Determine social interactions
- Survey of student's attitudes
- Student evaluations of projects
- Student blogs & analysis of content
- Student interviews
- Daily Journal of class activities
- Teacher observations on blog
- Mentor teacher observation
- Parent survey
- Photos

Timeline

December – Mid-January 2007:

- Gather “before” data
- Meet with Principal to review plan
- Obtain student permission forms

February 2007

- Cycle 1 – first thematic unit

End Feb – Mid March 2007

- Measure for change

April 2007

- Cycle 2 – second thematic unit

End April 2007

- Measure for change

May 2007

- Cycle 3 – third thematic unit

End May 2007

- Final wrap up of data gathering