

THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

LOCATION:
*La Plata, Maryland,
United States*

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Education and Academia

NOMINATING COMPANY:
IBM Corporation

ORGANIZATION:

Charles County Public Schools

PROJECT NAME:

Technology that Matters in the Classroom - A Valuable Teaching Tool

Summary

Charles County Public Schools is enhancing the classroom environment by using technology resources to distribute curriculum and multimedia content to teachers.

Introductory Overview

With the No Child Left Behind Act, providing teachers with needed resources that meet state standards of education has become a necessity. In an effort to standardize and distribute resources to high school teachers through out the county, a collaboration of the Department of Instruction and the Technology Department was forged to solve the challenge. The Department of Instruction had the necessary content, including textbooks, multimedia content, supporting documents, and exams all aligned to the county and state voluntary curriculum. The challenge was providing an interface that was easy to use, portable and could organize the content to enable the teachers to search and create lessons using the resources easily. VitalBooks, an application through Vital Source technologies, takes published and non-published content, organizing it in multiply ways in a virtual book shelf.

The Technology Department provided a laptop to 9th grade government teachers with the VitalBooks software containing the content for LSN government classes as a pilot during the 2004-2005 school year. The content includes the teacher and student textbook, online resources, videos, pacing guides, tests, as well a sample lessons created by county teachers. All resources are aligned to the state and county curriculum allowing a teacher to pull up a list of resources supporting a content standard. The content is also searchable by keyword as well as organized by the quarters with all content needing to be taught. Teachers no longer had to carry multiple textbooks, binders or even a grade book home in order to prepare for class. Instead all resources for their class were kept on the laptop and could be used anywhere they needed to work. In addition, the VitalBooks software provides specialized tools to enable to teachers to add additional resources make notes and comments within the software and even highlight concepts in the resources providing teachers with a digital environment similar to the traditional paper/pencil environment.



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During the 2005-2006 school year, the project was expanded to include Algebra 1 Part 1 and Biology. Both laptops and LCD projector carts were distributed to teachers at the beginning of the school year. Teachers were provided with additional training to enable them to use the laptops and software appropriately.

Benefits

The Vital Books project has made it very convenient for teachers to access immediately all resources needed for their instruction. This is because the software on each laptop contains the textbook, textbook ancillary materials, state guidelines and curriculum requirements, and the county curriculum that is based on these state standards. The county curriculum, which contains daily lessons and links to various web resources, brings many components needed for good instruction into one laptop. This is a matter of great convenience for instructors for planning and for in-class instruction as well.

One of the greatest benefits of the program is that it gives teachers time. This time seems to be used for doing more creative activities in the classroom, which is made possible by decreasing the amount of time that teachers have to locate and then coordinate resources for creating lessons. Since much of the information needed is in one place, teachers have the time to combine them in original ways that was not often seen before.

Since the teachers are interacting regularly with technology in order to plan and develop their lessons, the teachers become more comfortable with the technology enabling them to use it more frequently with students. Any additional use of technology within the classroom for students assist them in developing the skills necessary to be successful in today's technologically advanced world.

This can be applied to any educational environment whether it is other subjects, other levels such as post secondary schools or even for use in the corporate training environment where it is necessary that each student and instructor have access to a multitude of digital resources. It would likely offer the same advantages to any teacher with this resource.

The Importance of Technology

The laptop hardware and the Vital Books software program were essential to making this a worthwhile project. The software program enables the different components (state voluntary curriculum, county curriculum guide, textbook, web links) to be connected and linked to each other, and not just on the same laptop. Again, this makes the program a time-saving device for planning and instruction, since teachers can follow more easily through the links and relations of the resources on the computer. Having an LCD projector cart to display the information to the students enables a teacher to create dynamic lessons on the laptop that can be used anytime or anywhere.

Originality

What makes it exceptional is that a laptop with all resources for a subject area that a teacher needs to succeed at teaching was provided for each teacher. Some school systems that have gone the route of giving laptops to students, but teachers are the most important person to be

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using this form of technology, both from a financial standpoint, and from an effectiveness of use standpoint. This is not something that is being done on a widespread scale anywhere in the state of Maryland. Providing an LCD projector cart with the laptop is necessary to enable the teacher to share the resources with the students.

Although Vital Source has worked with post secondary schools to deploy textbooks, creating an all encompassing teaching environment in the K-12 industry had not been done. Schools have often tried to provide resources to teachers, through various methods, our application of using VitalBooks to organize and contain the resources provides a simple, easy to use interface that logically organizes the information in a variety of ways enabling a teacher to quickly and efficiently find the documents and links needed to teach a differentiated lesson.

Success

The goal of giving the teacher an effective tool for classroom planning and instruction has been accomplished, as measured by student performance on county assessments during the last 3 years having increased each year (Social Studies has had the laptop curriculum for 1 ½ years). While Charles County state HSA scores dropped the first year of using the laptop, this was a trend by almost every school in the state, which leads to the conclusion that it was a testing issue, and not completely relevant to measuring the effectiveness of this program.

Teacher input on surveys after the first year of use are very positive. The teachers not only believe that it assists with instruction, but on specific issues like using reading strategies, utilizing a variety of resources, and additional time for planning, the results are also very encouraging. More surveys and studies will be done with all three subject area groups to see if the data supports the program.

The individuals who benefit from the project are both the students and teachers. Teachers are able to plan lessons more efficiently. All resources are localized, organized and at their fingertips when they need it. With the teacher able to plan lessons with multiple types of resources, students are able to benefit from a diverse knowledge base presented.

As Dan Kaple a LSN teacher at Thomas Stone High School in Waldorf, Maryland states “On planning units and lessons-Vital source simplifies creating lesson and unit plans. Before vital source, when I planned for class I needed to have the textbook, a folder of previously used work, the curriculum guide, a list of previously used video resources, audio resources, and internet sites, and access to computer files that I had used to teach the lesson before. With vital source the text, curriculum guide, audio and video resources, and related Internet sites are all available at your fingertips. Often times I find myself using different resources and teaching concepts in new ways because of all the resources available to me.

Presenting lessons-Vital source adds to classroom presentations, the ability to highlight and to use note-taking devices make classroom presentations more effective. Also, having corresponding video resources and Internet resources listed with each unit diversifies my teaching methods and mediums used for instruction.

Primary documents-A major part of teaching government involves primary documents, the use of the catalog of titles in the vital sources library allows teachers to have every document they could possibly need. The fact that they are on computer file makes the documents easier to use and manipulate. The ability to highlight and post notes adds to the effectiveness of the teacher.”



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According to Jenn Branham an Algebra Teacher at Milton Somers Middle School in La Plata, Maryland, “The laptop has had a tremendous impact on my classroom. I only have 43 minute class periods, so every second counts. The laptop has all of the answers to the Reteaching Homework Worksheets, so while I check to see who has done their homework, I can project the answers up on the board. It has really streamlined every activity in my classroom. The power point presentations allow teachers another venue to present new information, or reinforce a concept. It has truly changed the way I prepare for a lesson, and allowed me to integrate technology into the classroom.”

Not all teachers have embraced the technology as was hoped, but the vast majority uses the laptop and its resources on a regular basis. According to the end of the year survey from the LSN pilot there was a significant increase in usage of technology on a frequent basis in all areas of teaching, from planning to the use while teaching, although no category had 100% usage of all teachers. In preliminary surveys of the Biology and Algebra teachers, the results show that teachers are using the technology regularly while planning and teaching.

Difficulty

In the initial pilot of the LSN/VitalBooks project, laptops were deployed to teachers throughout the county teaching the LSN government class. Prior to deploying the laptops, it was realized that training on the laptops would be crucial to the success of the program. Two types of training were organized for the teachers. The first was general use and care of the laptops. This included the basics of the parts of the laptop, how to login, taking care of the laptop to avoid breakage, and the policies of the school system for the appropriate use of the technology. The second half of the training was the use of the VitalBooks software, including how it is organized, how to create notes, how to search and the various resources that were included in the software. During this training there were numerous questions and concerns raised by the teachers including security of the laptops and how to share the information with the students. In order to address their questions and concerns, the technology department started by buying security cable to distribute to for use with each laptop. This would enable a teacher to lock the laptop when not in use.

A committee was formed to address the question of sharing the resources and information with the students while teaching. The county already had started a massive deployment of LCD projector and computer carts for use in classrooms, but the teachers were concerned that they would be unable to guarantee having one when they needed it. The committee met and discussed various options, finally deciding on creating a new LCD cart design for use with the laptops. The LCD projector carts were then purchased on a one-one ratio with the laptops, deploying the LCD projector carts to each teacher with the laptop. This guaranteed the teacher would have the cart at all times and it was designed to work with the laptop specifically.

The continuing difficulty as with all technology projects is training. During the second year, more in depth training was provided to the teachers. Instead of one training day with two sessions, two training days were provided to the Algebra 1 part 1 and Biology teachers. The first required training was the care and use training. This training was extended to allow additional

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time for the teachers to use the laptop to become comfortable with it. The second day of training was devoted fully to the use of the VitalBooks software. By dividing the training and providing more time for each, the comfort level of the teachers prior to beginning the school year with this new technology was increased.

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