Duchesne Academy of the Sacred Heart: Helps students discover how they learn best

Background
Duchesne Academy of the Sacred Heart (DASH), a private Catholic school educating young women in grades PK -12, has maintained a 1-to-1 computing program for more than a decade. Since 1998, select grades in the Middle and Upper Schools have had 24/7 access to laptop computers.

Though the program was going smoothly, administrators were always open to growth and change. Students were especially encouraged to share what was working with technology and what wasn't. So when students noticed a Tablet PC on Director of Technology Janet Thorson's desk and suggested they use Tablets instead of regular laptops, Thorson proposed a research project. The project allowed twenty students to study, use and research Tablet PCs during a one-year pilot program. During the pilot, the young women used Tablets on a regular basis while documenting the benefits and disadvantages of using the hardware.

Several times throughout the year students participating in the study presented their findings to a group of teachers and administrators. Students showed how the pen-based technology of Tablet PCs allowed for various levels of interaction and collaboration not as readily possible on traditional laptops. The findings prompted school administrators to change the program from a laptop to a Tablet PC program for the 2005-06 school year.

Challenge
Duchesne administrators saw the great potential Tablet PC's could have in providing differentiated instruction for students with various learning styles and needs. Though the hardware was a stepping-stone to achieve this goal, the school knew the program was not complete without proper software. Thorson launched an initiative to investigate software solutions that would augment teaching and learning with Tablet PCs.

Solution
While at a workshop, Thorson attended a simulated 6th grade math class taught using Tablet PCs and the DyKnow Software Suite, which included DyKnow Monitor® and DyKnow Vision®. Throughout the presentation Thorson was excited about the various collaborative activities DyKnow Vision created and the classroom management possibilities DyKnow Monitor presented.

Thorson particularly liked DyKnow Vision's ability to allow students to

About DASH:
- Catholic independent PK-12 all girl school
- 670 students
- 1:1 Tablet PC initiative in grades 6-12
- Emphasis on technological fluency

Challenge:
Find easy-to-deploy, easy-to-use software optimized on Tablet PCs, while not compromising teaching and learning benefits and technological effectiveness.

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interactively take notes with the teacher or other students. She also liked the polling and replay features combined with the software's anytime-anywhere access.

"It was exciting to see how the instructor taught class with DyKnow Vision while managing the digital classroom with DyKnow Monitor," said Thorson. "The possibilities were endless."

Thorson shared her enthusiasm with Upper School math teacher and department chair Lynn Luton who then spearheaded the implementation of DyKnow at Duchesne. Luton later attended a conference to learn more about the software and how it could be used across disciplines. After thorough evaluation, the school implemented DyKnow in several disciplines during the 2007-08 school year.

The first full year of using DyKnow in classrooms at Duchesne presented many benefits. Notably helping teachers achieve the goal of providing differentiated instruction.

Math

Before DyKnow, Luton used Tablet PCs to improve student learning, especially for those who struggled with problem solving and concept retention. The ability to use electronic ink from Tablet PCs to write notes was a critical element of her teaching. However, the collaboration and interaction between students was missing.

Luton was looking for an easier, more efficient way to provide differentiated instruction while keeping students on-task and engaged. She was impressed with DyKnow Monitor's ability to block non-curricular applications and URLs and view students' computer screens. She was also impressed by DyKnow Vision's many interactive and collaborative features – student response tools, Work Groups, Screen Broadcaster and Panel Submission.

Since teaching math requires sequential visualization of problems, Luton focused her pedagogy on demonstrations. She used DyKnow Vision's Work Groups feature to give students a shared workspace where they could dynamically solve problems together. Then she fostered a collaborative learning environment by using the panel submission feature to demonstrate students' work.

"Not only did demonstrating students' work spark discussion, it also allowed every student to leave the class with a copy of the demonstration," said Luton. "A blackboard or whiteboard did not capture in-class demonstration like that, whereas DyKnow did."

Visualization in class was not the only benefit DyKnow Vision offered. Luton says another key element of student success in her classes was the ability to replay the notes in DyKnow after class for review.

"To be able to replay problems worked during class was a big benefit to students," said Luton. "[They] had more ownership in their work and grades because all of their notes and my notes were available for review anytime."

Students who preferred to write their notes used the electronic ink. Students who learned by watching took advantage of the interactive whiteboard and collaborative note-taking functionality. Students who needed repetitive, concrete demonstration of materials utilized the replay feature. Overall, Luton believes DyKnow improved teaching and learning.

"DyKnow just made the education process better. The software helped students who needed something more concrete to focus on."

Lynn Luton
Math Department Chair and Teacher

A student works in DyKnow on her Tablet PC.

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Foreign Language

Therese Murray, Middle School foreign language teacher, liked to bring the world into her classroom whenever possible. Among various activities, she frequently used Web sites, textbooks, handouts and quizzes to engage students throughout a class period. Murray noted students liked this style of teaching because it helped stimulate tactile, auditory and visual learners. However she was losing critical class time due to inefficiency. She wanted to provide differentiated instruction, but also maximize class time.

Realizing the challenges Murray faced, Luton introduced her to DyKnow.

Murray was immediately impressed by DyKnow Vision's collaborative and interactive elements that allowed her to incorporate outside materials into a curriculum without disrupting the flow of class.

Murray used the Screen Grab feature during class to capture images from Web sites and other documents. Likewise, she could easily supplement prepared content by writing impromptu notes that were immediately transmitted to students' screens. Murray also used the Panel Submission feature, which allowed her to retrieve student panels and encourage collaboration. Then with DyKnow Vision's student response tools Murray gauged student understanding which helped her determine whether to continue teaching a concept or move onto another.

After one year of use, Murray believed students who struggled with material before using DyKnow made academic improvements. She also noticed students were more confident with material and had more ownership in their work. The changes were so considerable Murray said she could not go back to teaching without the software.

"I was able to stimulate every student's different learning style with all the different tools in DyKnow," said Murray. "And students who needed reinforcement were helped tremendously by the ability to review panels and reconnect anytime with the content that was created during class."

"All the aspects of learning came alive with DyKnow," said Murray continued. "I wanted to bring as much as I could into the classroom. Instead of a PowerPoint here and handout there, I gathered all the information into one [DyKnow] notebook for my students to access anytime. It made teaching easier and kept students engaged."

History

Seventh and eighth grade Texas and American History teacher Cathy Flannery was looking for a way to create more flexibility in her teaching. She wanted to promote differentiated learning and give students access to outside materials.

Realizing Flannery's need, Luton introduced her to the DyKnow Software Suite. Flannery saw how DyKnow would give her the ability to reach students of various learning styles. Using DyKnow Vision, Flannery put together a well-rounded and comprehensive class by simply pulling information into a DyKnow session and adding impromptu notes throughout a class period.

Then, with the various collaborative and interactive features, Flannery stimulated the minds of various learners.

"[DyKnow} lends itself to differentiated instruction, in turn giving students the opportunity to discover how they learn best – something that is going to give our students the competitive edge in college and beyond."

Janet Thorson, Director of Technology

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"Visual learners watched me supplement prepared content with other engaging outside elements; auditory learners listened and weren't bogged down with writing notes; tactile learners who needed to write used electronic ink and interacted using chat or the other student response tools," said Flannery.

Flannery also cut down on the amount of time she spent preparing, print, passing out, retrieving and grading student papers using DyKnow Vision's Polling feature. Before class she would prepare a quiz on DyKnow panels. Once class started she transmitted the quiz to students' computers. Students would then fill out their answers and submit them for a grade. Flannery then graded and returned their quizzes electronically.

"[DyKnow] saved a lot of time and students could access notes and quizzes anytime for review," said Flannery. "Students then had a digital file that was steadily being built up with resources and information that extend beyond the text book."

Overall, students in Flannery's classes were more organized and accountable. She felt DyKnow was one of the most innovative, useful tools in and out of the classroom.

Results

Thorson said that many teachers who were not part of the initial implementation are planning to use DyKnow software after seeing peer results. Likewise, many of the teachers who were previously using the software are planning innovative and engaging ways to use DyKnow in the future.

"[DyKnow] is one of the best tools we've integrated into our Tablet/ laptop program," said Thorson. "[DyKnow] lends itself to differentiated instruction, in turn giving students the opportunity to discover how they learn best – something that is going to give our students the competitive edge in college and beyond."

About DyKnow

A leader in interactive education, DyKnow combines sound teaching with intuitive technology to create the most flexible and effective solutions for teaching and learning. DyKnow is committed to helping teachers maximize class time and foster collaboration while also minimizing electronic distraction. By promoting effective studying and gathering student feedback teachers can feel confident in students' academic success.

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