

St. Dominic Catholic School

# Information, Technology and Media Skills

2009-2010

## **Demonstrated use of technology in the regular classrooms.**

Technology is a cornerstone to the education received at St. Dominic School. The teachers plan lessons and work together to integrate technology into the curriculum. All classrooms are networked and have a multimedia workstation with a PC and TV cable hookup. Grades 1-4 have student computers in their classrooms. The teachers, staff and students are able to access the Internet. Additionally, 19 SMARTBoards and related technology are integrated into lesson plans and the fulfillment of curriculum goals.

Students from K5 through 8th grade have weekly computer lab class time, with additional training as their curriculum dictates. Their classroom teacher is fully participative during all computer lab sessions, along with the school's computer support staff person. This allows the teacher to correlate technology into areas of their curriculum.

The students use the various software applications to further their understanding or communicate their ideas. The software selected for the students is chosen to integrate computer technology with their existing curriculum. Each software application is evaluated in order to assist the student to obtain needed information, analyze and create documents that will be used for personal or group projects, and will be helpful in presenting clear and concise reports.

Examples of use of computers and technology included:

- K5 uses Microsoft Word to learn how to spell and create sentences, and KID PIX is used to develop their eye/hand coordination.
- Keyboard typing program starts in 1st grade with TYPING JR. and progresses in 3rd grade to the MAVIS application, which continues through 8th grade.
- Introduction to creating Microsoft PowerPoint presentations starting in 3<sup>rd</sup> grade and Microsoft Excel graphs are inserted as needed in upper grades.
- Microsoft Publisher and Word are used to create curriculum documents, greeting cards, calendars, labels, brochures and 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grade newspaper formats used for various curriculum needs.
- KIDSPIRATION and INSPIRATION are used to build strong thinking skills, with the students organizing and outlining their own study sheets and projects.
- ORCHARD software includes skill trees designed to build and reinforce basic key skills that are taught in the classroom.
- 7<sup>th</sup> and 8<sup>th</sup> graders have an introduction to programming with the use of TERRAPIN LOGO software, and TESSELLATIONS for the understanding of geometric concepts.
- 8<sup>th</sup> grade students have an opportunity to become part of the S.M.A.R.T. Team. The S.M.A.R.T. Team uses the computer lab to design models of recently discovered structures of biological molecules. The Center for Bimolecular Modeling at Milwaukee School of Engineering (MSOE), which sponsors S.M.A.R.T. Team Program, then builds the models on their rapid prototyping machines.

## **Use of technology across the curriculum.**

St. Dominic School believes that newer technologies can be a very useful tool in the education of its students and also believes that exposure to technology and the use of newer technologies is a significant part of a child's education. Consequently, technologies are used frequently in the regular classrooms at St. Dominic School and across the school's curriculum.

The school currently employs SMARTBoards in 19 of the classrooms, which includes Spanish, Music and the Computer Lab. Each grade, starting with K4 has the regular use of a SMARTBoard.

Children in the primary grades are instructed through the use of technology in many ways. The classroom computers are used to facilitate the Accelerated Reader program and for drills and practice. In addition, SMARTBoards are used across the curriculum. SMARTBoard technology is used for demonstration in solving mathematics problems, and for science instruction. For example, the third grade students use SMARTBoard technology across the spectrum of the curriculum for regular classroom instruction such as math instruction and problem solving by students and use classroom computers for visiting websites and completing quizzes.

The fourth grade also uses SMARTBoard technology across the curriculum. In particular, the students participate in a quiz bowl competition in social studies. The SMARTBoards are used for interactive math practice and problem solving. In the science program, the students are shown various animal cells and parts of the human body using the SMARTBoards. They are also used to practice reading fluency and for vocabulary games. The SMARTBoards assist the teachers in reviewing multiple content areas and the teachers employ curriculum ties provided by textbook publishers.

The fifth grade students use school computers to prepare and print writing assignments. An Internet site is used to help the students memorize their spelling words. The language arts curriculum has employed the Orchard computer program to work on the students' language arts skills, and as part of the reading program the students will prepare a book report using the Microsoft Publisher program.

Sixth grade uses the SMART Response (SENTEO) and the SMARTBoard daily.

Seventh and eighth grade students make regular use of technology across the curriculum. Students in both Science7 and Science8 use TI83/84 graphing calculators to analyze data collected during experiments. They use the calculator to make scatter plots of the data and also do regressions to find the best fit line or other function. They use the TI83/84 to calculate statistics such as mean, median, maximum, minimum, and the correlation coefficient. In addition, they use the calculator to write programs useful in science such as a program that changes Celsius to Fahrenheit and the reverse. The calculator also has many science applications that can model problems such as the speeds of falling objects in gravitational fields.

Students in Science 7 and Science 8 also use the molecular visualization program called RasMol to study molecules as small as adrenaline or as huge as multi-subunit proteins like hemoglobin.

Algebra students use TI83/84 calculators to investigate the properties of functions. They also use the calculator to make scatter plots and derive best fit functions. The TI83/84 is integrated into every chapter in their 9<sup>th</sup> grade algebra textbooks. In addition, algebra students write programs to solve systems of linear equations, systems of linear inequalities, calculate slopes of lines, distance between points, and many other algebra related programs.

SMART Team uses the RasMol molecular visualization program to design biological molecules that can be built by the rapid-prototyping machine at MSOE and how the machine works. They also learn to use the Protein Data Bank website where scientists deposit recently determined molecular structures. They learn about the technology that their mentor scientist uses in his/her lab such as running DNA gels and using computer programs that display molecular structures in three dimensions using special goggles that communicate with the program. They see the automated machine that can try many different solvents to see which crystallizes a protein for X-ray crystallography the best as well as the X-ray source that creates diffraction patterns when a beam is sent through a crystal of the protein whose structure is being sought.

Classroom SMARTBoards are regularly employed in the seventh and eighth grades for uses such as probability experiments, modeling number properties, graphing, measurement of angles, construction of geometric figures, and PowerPoint and video presentations relating to math and geometry. They are also

used for vocabulary games and math reviews. In the social studies and religion areas SMARTBoards are used for notes and the showing of videos, maps, charts, graphs and photographs and for a jeopardy-type review game. Students also prepare power-point or SMART notebook presentations and create travel brochures using Word or Publisher programs. The art program uses technology to provide examples of artists and their work to our students.

The St. Dominic School music program uses SMARTBoard activities to supplement the curriculum. Internet connections are used for access to different music styles. In addition, the seventh and eighth graders create music videos using technology skills and application.

Use of technology within the curriculum maintains and augments student interest. Our computer curriculum incorporates technology into all curricular areas. Emphasis is placed on application skills. TechWorks is a resource available for grades K5 through 8. Teachers plan lessons wherein technology is integrated into the curriculum.

Finally, students are regularly instructed to go to interactive websites to complete homework assignments in a variety of curriculum areas.

As noted above, St. Dominic Catholic School utilizes technology for virtually all disciplines of study. The students are introduced to technology specific curriculum in K5. The technology curriculum is designed to have students' use of software applications build off of prior year, so that by the time they graduate 8<sup>th</sup> grade, they have covered most of the Microsoft Office Suite skills as well as obtained other software skills.

### **Innovative use of technology that includes regular use and updating of one or more of the following: blogs, wikis, student created websites, podcasts, presentations.**

To protect students, the technology committee has limited the activities that would take students outside of the school campus. However, the Internet is used for research and topic development, and the students produce a school newspaper, Knights' News, that is uploaded to the school webpage.

Technology (Excel, Word, Inspiration/Kidspiration, PowerPoint, and SMART software) is utilized by students to organize and present information, including classroom presentations.

### **Collaboration and communication with outside schools and/or resources.**

Teachers use technology to retrieve information on curriculum updates, new methods, and strategies for teaching. In particular, SMART Response and the SMARTBoard, as SMART teacher resources, are shared and available worldwide. The faculty utilizes this resource on a regular basis.

Additionally, faculty will contact other school's staff on an individual more personal basis, and share information through the use of e-mail and links to websites. For example, a fourth grade teacher at St. Dominic corresponds regularly with a peer at a grade school in Huntington Beach, California. They utilize the SMARTBoard and other technology to keep in touch and share ideas on how to exploit technology in the classroom.

## **Teacher proficiency in using technology and media as an instructional tool.**

St. Dominic faculty has been thoroughly trained in the use of SMARTBoards. As a result of this training and the extent to which the SMARTBoards are used as an instructional tool, the St. Dominic faculty is often asked to advise teachers from other schools.

The faculty will also utilize SMART Response. SMART Response is interactive software that has students register their individual response to questions on hand held units, the results of which are displayed on the SMARTBoard. The software then transfers and records the assessment data to a spreadsheet or other report for the teacher to analyze. It is used in Math, Science, and Language Arts.

In addition, we have 2 portable scanners. These scanners are used by the staff to scan old transparencies as well as hard copy materials such as book pages and place the scanned info into their documents to be used as needed on the SMARTBoard. The scanners are shared by all the staff.

Two of the classroom teachers also use a “pointer mouse” so that they can control what is on the SMARTBoard from the back of the room, where they can work from behind the students. One staff also has a computer Tablet so that she can write on the SMARTBoard from another location other than being right at the board or at her computer.

## **Administrative use of technology as a communication tool with parents and public.**

*Web Grader Standards based Report Card* and web-based *Grade book* are used to communicate grades to parents of students in grades 4 through 8. Parents are able to access their children's grades with a special user name and password. A web-notes feature allows communication between teachers and parents at all grade levels.

Parents are able to utilize a website to sign up for and pay for hot lunch.

All teachers and staff have individual external and internal e-mail accounts. The use of e-mail allows further communication between faculty, administration, and parents.

## **School has a well-developed technology plan that is integrated with the school's curriculum alignment.**

In December of 2007, the St. Dominic campus finalized a Technology Plan that applied to both the parish and the school. The goals for the school as outlined in the plan include the following:

- Technology will be used as a tool to implement an interactive curriculum.
- Technology will be used as a tool to advance the capabilities of gathering information, producing information, and reinforcing skills.
- Technology will be used as a tool to promote active participation in the lifelong learning process.
- Technology will be used as a tool to foster responsible decision-making.
- Technology will be used as a tool to broaden the awareness of our parish and civic community and reinforce the mission and goals of St. Dominic School.

The vision for use of technology in the school is to:

- Educate and empower administrators, teachers and students to become self-directed, continuous learners and ethical, responsible citizens prepared to meet the increasing challenges of a worldwide, technological society.
- Challenge administrators, teachers and students to become proficient in the use of technology with an understanding of the implications of technology in furthering the mission of the Church.
- Use technology as a vehicle of communication, analysis and research in the light of religious truths and values.

All students in grades K5 through 8th grade have assigned computer classes in the lab. The specific technology curriculum as outlined in the plan is attached as Appendix A.

### **Continuous professional development is provided to increase teacher skills.**

Staff development is important for successful integration of technology. Every year, each teacher is allotted \$500 for continuing education and development. In addition, State Title money is also available for technology applications. St. Dominic also provides technology in-services. InfoCor provided basic SMARTBoard training in 2007. All teachers have attended technology in-services.

The School Technology Committee assists the school administration in development of the appropriate training for each technology. Resources for ongoing training and technical assistance include:

- Computer experts in the school community continue to donate their services
- ETA a professional engineering and consulting firm is available for technical assistance
- Archdiocese of Milwaukee
- Elmbrook School District
- Continuing Education Classes available in the area
- InfoCor

The computer lab allows for expanded on-site professional development for teachers, administrators, and mentors.

InfoCor is a local provider of SMARTBoards. In addition to providing the units, InfoCor has helped the school with the successful implementation of the SMARTBoards and SMART Response, through seminars, in-services as well as hardware and software support.

### **There is demonstrated evidence that the technology is improving student learning.**

New technologies provide teachers with additional flexibility to individualize learning. By addressing varied intelligence, providing multicultural experiences, and enabling multidisciplinary approaches, learning is more student-centered. Learning becomes highly motivational with new technology. There are programs available to stimulate problem solving, critical thinking, and student creativity.

SMARTBoards, a computer driven projector with a touch sensitive white board, has been proven to be an effective instructional tool for students who benefit from repetition, need to see the material more than once, for students who were absent, for struggling learners and review for exams. The SMARTBoard is used in all areas of learning such as math, geography, English, foreign language, science and computers.

## **The school has designated significant resources to sustain a high quality technology/media/information program.**

In April of 1999, the St. Dominic Technology Committee was formed. The Committee includes seven (7) parish members, the parish Business Administrator, the School Principal, School Support Staff, ETA representation, and the pastor. The Technology Committee periodically reviews the Internet and technology usage policies and investigates and evaluates faculty and parish member technology requests and concerns as they are presented. This includes evaluation and recommendation of software and hardware additions. Additionally, the Technology Committee also supports teacher development of computer literacy.

The school staff provide input to the Technology Committee regarding projected and potential use of technology in their work. This input is utilized in the formation of future applications and investments in technology. The Technology Committee is part of the parish Finance and Administration Commission. Any capital expenditure for technology is approved by the Technology Committee and is then submitted to the Finance Committee for approval prior to any commitments. Technology enhancements are included in the bulletin notices and newsletters as appropriate.

Parents are also involved in planning and funding technology initiatives and staff development. The Home and School Association provided \$40,000 initially for technology and continues to direct dollars to technology. Additionally, the first two parish Auctions designated proceeds to technology in the amount of \$134,000. Finally, a parish member participates in the IBM Matching Grant Program that has provided a continuing replacement of lab computers which then are reassigned into classrooms for student use.

In January of 2005, St. Dominic School added a Computer Support person to assist the staff in their use of technology in the computer lab as well as in their classrooms. SMARTBoards were introduced in the fall of 2007, and are currently used in every classroom, with all but four (4) classrooms having a permanent SMARTBoard.

## **Media analysis.**

Selection of the most effective media to use to support student learning is a team effort. Typically, the computer support person stays current on developments in educational software and hardware. Additionally, teachers become aware of new and evolving resources through their training and collaboration with other teachers.

Once a technology related resource is identified, it is brought to the technology committee. Often times, a sample or demo of the product is utilized by a few teachers to test its effectiveness and value to enhance education and learning.

If the trial period results in a determination that the technology provides value, it is brought to the technology committee. The technology committee makes a determination based on the proposed use of the technology, the teacher representations as to its effectiveness, its cost, and other relevant factors to make a recommendation. Once the technology committee recommends the purchase, the finance committee makes the final determination on the purchase for any item of significant cost.

## **Access and analysis of information.**

Beginning in fourth grade, St. Dominic students start doing reports that require more significant research. During the fourth through eighth grade years, the students are continually educated as to resources for research and how to focus their searches. Emphasis is placed on evaluating the reliability of the source of information obtained during research. Additionally, consideration and analysis of primary versus secondary sources is taught, beginning in fourth grade.

The Home Page on all the student computers is set to a child centered home page, safe for searching and browsing. With permission other search engines or web sites are used, depending upon the curriculum and age of the student.

A laptop is available for students that do not have updated systems, software or broadband Internet access at home. They would be able to check out the laptop for a night or so to work on their regular curriculum as well as SMARTBoard and SMART Response lessons. The laptop has the SMARTBoard software on it, as well as Office 2007 both of which is used on their St. Dominic teacher computers.