

While Charbonneau would like to see his students grow into the next generation of artists and authors, the education fostered through Marie of the Incarnation's technology adoption is not limited to the arts.

The school is currently in the process of automating its library records and has chosen to use students from the junior and intermediate divisions to assist in this procedure. As with many of the technology-driven activities at Marie of the Incarnation, this project is successful on many levels. One purpose was to teach students the use of valuable database entry and spreadsheet skills but added benefits were soon recognized.

"What really amazes me is the amount of literacy education taking place. Because students have to review the books in order to categorize them, a number of higher-order thinking skills are developed. As an added bonus reluctant readers have been given impetus. We often see them forgo the data entry activity or lesson at hand and begin to read the book - and these are sometimes students who we can't get to read otherwise.

"The whole process is just passing knowledge through their fingertips into their bodies - like the knowledge from the books is going into their bloodstreams by osmosis."

Tools like solid ink printing, networking and the Internet are quickly changing the way Marie of the Incarnation School prepares students for tomorrow. Fortunately, administrators like Steve Charbonneau and his teaching staff are helping to lead that charge.



# technology in the classroom

## Principal Provides a Model for Integrating Technology into the Classroom

Sometimes it takes a mix of vision and determination, with a pinch of scorn-braving courage, to bring technology into schools -- especially innovative or new technologies. While successful technology projects are plentiful at the classroom, or teacher level, widespread implementation is required to bring about meaningful results and to accomplish this technology, direction needs to come from the school's leadership.

**"The solid ink colour printer makes the final product much more appealing to the kids, and encourages them to do much more creative work."**

*— Marie of the Incarnation School Principal Steve Charbonneau*

Steve Charbonneau has been the principal at Marie of the Incarnation School since 1998. With technology constantly changing and budgets always a question, Steve knows that finding appropriate technological tools for the school environment can be difficult. Still, he's maintained a focus on tools and deployment strategies that can foster "meaningful engagement" for the approximately 350 students from Kindergarten to Grade Eight.

Listening to Steve speak about his school, one can easily detect his inspired vision for how to utilize technology to combine curriculum initiatives with other school activities. For instance, last year, Marie of the Incarnation School implemented a number of projects to raise funds and/or reduce expenses, while helping the teachers educate students by connecting learning to valuable life lessons and practical experience.



## customer close-up

- **Customer name:** Steve Charbonneau, Principal, Marie of the Incarnation School
- **Industry:** Primary Education
- **Location:** Bradford, Ontario
- **Printer:** Phaser solid ink printer
- **Applications:** Annual student agendas, annual reports, holiday cards, posters

solid ink: **faster**  
and **more** affordable



# connecting learning to practical experience

For example, the school was able to reduce the expense of annual student agendas by developing them internally, using student created materials, such as art, poetry and prayers, which were then printed in colour, in-house, on a Xerox Phaser solid ink printer.

"Beyond saving the expense of purchasing agendas from an outside supplier, personalized agendas allowed us to have our school, our students and their work, reflected throughout the entire agenda, not just the preliminary pages." Charbonneau knew that students were more likely to use organizers that had their personal touch.

"Our objective with this project was not just to get students organized," says Charbonneau. "But to help them become authors, illustrators and creators. It has become a hands-on learning experience.

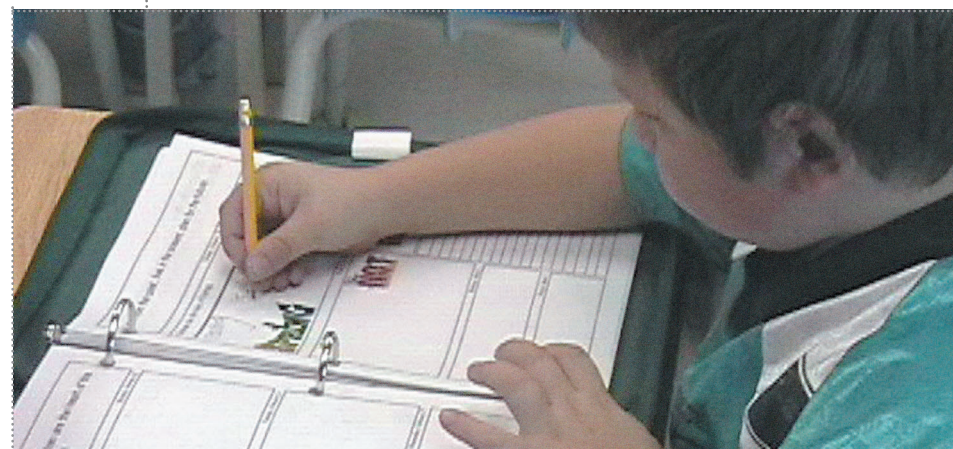
Using colour throughout the agendas was key in establishing a means for the students to see a final, professional-looking result. "Working in colour excites them and consequently they put more effort into it, plus the students also find when they use colour their talent is more easily recognized." However, bringing colour printing technology to Marie of the Incarnation School was not an easy task and required clear foresight.

Initially the teachers at the school had a number of inkjet printers - one per classroom. While these printers could produce high quality colour documents, they were not cost effective, or fast enough to handle high volume projects like the annual agendas. Charbonneau found that although the capital cost was higher, the school was ultimately better served when using one high-performance networked colour printer. By using a centralized printer that uses innovative solid ink technology, the school is able to have a lower cost of ownership than multiple ink jets. Plus solid ink technology is environmentally friendly.

Charbonneau purchased a Phaser solid ink colour printer from Xerox, which produced better results, faster and more affordably than most colour laser printers. His strategy paid off with positive reaction from the students.

"We wanted to have access to a colour printer that was cost effective, had the ability to print in colour and could be used as a learning tool by both teachers and students," says Charbonneau. "We've found that using the solid ink colour printer makes the final product much more appealing to the kids, and encourages them to do much more creative work."

In addition to the curriculum benefits Marie of the Incarnation experienced, the school has also made a variety of common documents and annual reports more compelling. The investment in the solid ink colour printer and simple publishing technology enabled the school to engage in an exciting interactive fund raising program that Charbonneau had dreamed of for quite awhile.



For the holiday season, each student in the school developed art for a festive card. Cards were printed with the solid ink printer onto cardstock, giving each of the students a professionally produced keepsake they could display with pride. The cards were then sold to parents for fundraising purposes in sets of 10.

From a learning perspective, the project tied curriculum objectives with a teambuilding exercise that involved the coordination of the school's Parent Council, principal, grade eight students and school staff. While each student was able to experience the process of developing a highly professional looking card, they also had the opportunity to share their creative piece with family and friends. Charbonneau found that many of the cards have made their way around the world - some as far as Portugal and Ireland, and many have been framed and displayed on walls.

Most classes were able to raise over \$230, while expenses came in considerably lower - approximately \$92. The funds have been used to purchase educational games, books, learning materials and other items of use for the classrooms. The intermediate students were able to generate \$724 to help offset the expenses of a trip to Ottawa.

All this activity has also helped to offset the cost of further technology acquisition.

Charbonneau's embrace of technology is motivated by two things: engaging students in essential meaningful curriculum activities in which they can see tangible results; and providing a balanced education in technology across all the school's classes.

"In some schools, only one teacher -- or a small number of teachers -- embraces technology, or is really technologically gung-ho. All the students experience technology in the sense that eventually they will all pass through those classrooms, but there has to be more consistent interaction with technology than a process like that offers," says Charbonneau. "The real challenge is to make technology available to all students at all times, and that means winning buy-in from all staff not just the few who are ready adopters. It's difficult with financial constraints, but we need to find creative ways to bring students technology. Our goal has been to ensure five computers to a class and a bank of computers in the library, most with similar performance, all networked, Internet ready, and having access to high speed colour printing via the Phaser printer."

This bank of computers allows teachers to cycle students through computer use during class time. Teams of 10 students can be on the classroom computers at any given time, while, if necessary, others can be on the library machines. "This makes it a realistic expectation for teachers to adjust their daily teaching style to include use of technology.

"But teacher development and in-service are perhaps the most critical components of successful technology delivery," according to Charbonneau. "In order for something to succeed staff must perceive it as beneficial and time efficient. There are still steps to be taken to engage teachers to use technology and improve their teaching methods with it, but a lot of progress has already been made. We are

very lucky in this school as the staff is remarkably cohesive, very supportive and willing to try new ideas."

One strategy Charbonneau has used to assist staff is to ensure there is at least one technologically literate teacher (a techno-enthusiast) in each of the three divisions. The practices of those teachers are hopefully emulated by fellow teachers through shared experience and exemplary practice and eventually are brought to all the students in that division.

Charbonneau is thrilled to see his strategy is working.

"The other day I noticed a class filled with creative 'Go Canada Go!' posters the students had made on their computers for the Olympics." Not an early adopter, the teacher hadn't embraced technology in the past. "A small example perhaps, but I thought this was a great indicator that she is now at the point of seamlessly integrating technology into her classroom activities."



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