

CASE STUDY

ST. ANDREW'S COLLEGE COMPLETES ITS TECHNOLOGY VISION WITH FUJITSU TABLET PCS

"THE TEACHER HAS TO BE ABLE TO GET THE CLASS UP AND RUNNING IN THREE MINUTES. THE TECHNOLOGY—PROJECTORS, NETWORK ACCESS—CANNOT BE GETTING IN THE WAY OF THAT, OR IT'S TAKING AWAY FROM THEIR INSTRUCTIONAL TIME, AND TEACHERS ARE GOING TO ABANDON IT."

Steve Rush, SAC's Director of Technology.



THE CUSTOMER:

Many well-known and prominent Canadians spent their formative years at St Andrew's College, illustrating its impressive character from 1899 to the present day. Today, St Andrew's College has 570 boys, with 320 day students and 250 boarders representing Canada and 21 other countries.

THE PROJECT:

The school needed a versatile tablet personal computer that could support a dynamic classroom environment where technology is fully integrated into the curriculum.

THE SOLUTION:

The school purchased over 700 Fujitsu LifeBook T5010 Tablet PCs for all of their students and faculty.

At St. Andrew's College, one of Canada's oldest all-boys boarding and day schools, a dictum known as the three-minute rule is strictly enforced. This rule does not apply to students, but to technology—any device that is not capable of performing promptly to expectation will be removed from the classroom.

SAC is not shy about using technology. All classrooms at the school's Aurora, Ontario campus are digitally equipped: students take notes, receive and submit assignments, access handouts and supplementary web materials, and collaborate with teachers and fellow students through a campus wide wireless network.

All this is part of a comprehensive vision that SAC has been pursuing since the 1990's. The idea here is to use technology to deliver not just another way of doing things, but a clearly superior academic environment where the advantages of technology are leveraged to make the classroom atmosphere more exciting and interactive. Learning is the number one priority at SAC, and when it comes to assessing the contribution of technology, teachers are the final judges.

To realize this vision, the school needed to equip students with a personal computer that could meet all the demands of a multi-faceted learning environment. The evaluation team found this machine in the Fujitsu LifeBook® T5010 Tablet PC. Last fall, the school purchased over 700 LifeBooks for all of their students and faculty, and the clear consensus is that the vision has now been realized.

Prior to that, students were using laptops. These worked well in English, history, and other text-based courses, but they didn't make the grade in subjects that frequently use diagrams, symbols, and equations. "In classrooms like math and science, they really couldn't make use of a laptop, although some teachers tried," says Rush. "In the end, we trust our teachers to make the best choices, and in some subjects they decided to keep the laptops closed in the classroom. So for us, laptops didn't complete the vision."



The Fujitsu LifeBook T5010 with pen stylus is ideal for students to write mathematical equations.

What the T5010 LifeBook has done is set free the full functionality of Microsoft® Office OneNote®, which SAC adopted six years ago. When used with a Tablet PC, Microsoft OneNote can function as a virtual binder for every conceivable type of document – handwritten notes, text, diagrams, photographs, scanned pages, screenshots, even audio and video recordings. Content can be easily searched, organized, and shared. “OneNote is the killer application for education,” says Rush. “We’ve been using OneNote for several years as a laptop program, but it is the pen capability of the Tablet PC which really unleashes its power. Now our students don’t need to use traditional paper binders.”

Students now use the LifeBook for virtually all of their learning activities including reading, research, essay writing, receipt, and submission of assignments, communication with teachers, and collaborative work with other students. The machines are seen everywhere— in classrooms, the library, common areas and dormitory rooms, and on buses enroute to games. “The students are using the tablet writing feature like they’ve been doing it for years,” says Rush. “And they haven’t—they’ve been doing it for a term. So, it just works; it just fits.”

The LifeBook T5010 was not the first Tablet PC that SAC tried. Using their faculty as a pilot group, the school had initially purchased tablets from another manufacturer that turned out to be inadequate. The machines were uncomfortably slow, and teachers complained about frequent freezing, and a lengthy four-minute reboot time – a violation of the three-minute rule. The LifeBook T5010s, by contrast, rarely freeze, and reboot time with the same applications is an impressive minute and a half.

The high reliability of the LifeBook T5010 has also been a key factor. Since paper is now rarely used in the school, everything depends on the machines; therefore failures can be extremely disruptive to the classroom. “Running a wireless tablet program is expensive and one of the biggest costs is servicing the machines. Yet, what is more significant is that failures interrupt the learning environment and undermine people’s trust in the technology,” says Rush. The school maintains their own service statistics, and after one term with the LifeBook T5010 the results are impressive – in comparison with the previous laptop, overall parts replacements are down by one third, and hard drive failures are down by nearly seventy five percent.

Robustness was also a factor in the school’s choice of tablet. “Schools are very demanding environments,” says Rush. “A student is being carpooled to school. Then he has to put his backpack in his locker and go to chapel. Then he has to go back to his locker and get his backpack, go to class for an hour, take it out, pack it back up, and go to the rest of their classes. Then he has to go to sports, or clubs or rehearsals. They are going all day long, and their tablet is in transit dozens of times a day. So students have proven to be tough users.”

Rush notes that the LifeBook T5010 has a sturdy screen protector designed to stand up to constant pen use. The machines were recently made even harder. Rush had noticed that many students buy protective skins for their MP3 players, and thought this would be a good idea to model for the students’ LifeBooks. The Fujitsu support team quickly got on the phone and arranged to have the cases custom made.

Ergonomics also played a role in the rapid acceptance of the machines. “There are a bunch of subtle things about the machine that really work for us,” says Rush, citing a number of features, such as the comfortable full sized keyboard, the choice of many screen orientations, the touchpad, and the performance of the pen on the screen. “The feel of the pen is very true,” says Rush.

The biometric password, which uses a fingerprint pad for authentication, is another convenience. “If the screen is locked, there is no need to press ‘control – alt – delete,’” says Rush. “There’s a button on the tablet screen. Students can just press the button and scan their finger.”

After only one term, the tablet has rapidly extended SAC’s technological vision into math and science classes, supporting a wide range of teaching styles. For example:

A math teacher might be using a tablet connected to a projector to draw a graph explaining trig functions. Students can take notes, copying the diagram on their tablet, and even color coding their comments.

A physics teacher might demonstrate how to solve an equation using a smart whiteboard that records all the steps in video format. The file can then be uploaded to a teacher’s website and downloaded via the wireless network to the students’ tablets, so that they can view an “instant replay” of all the steps.



Students now use the LifeBook for virtually all of their learning activities.

A biology teacher can send students a blank diagram of a cell, and then work interactively with the students to label the various cell parts.

Students in a human geography class can take full advantage of resources available on the web. One textbook publisher, for example, provides an online tool that allows students to enter different values and simulate how they would affect a population map. The tablet makes this tool easy and natural to use.

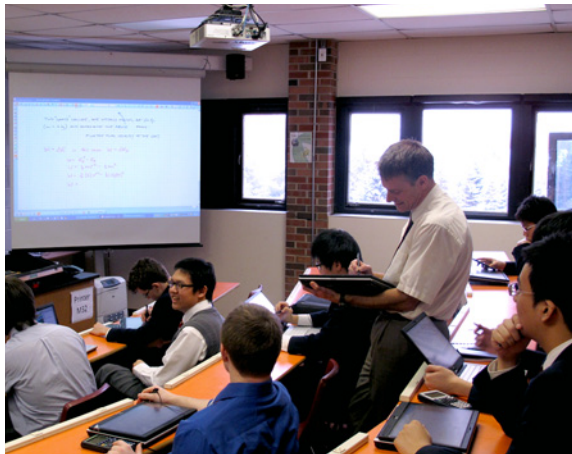
The tablet also removes the familiar problem of students hiding behind their laptop screens instead of paying attention. When necessary, teachers can insist that students use their machines in flat “tablet mode”, making it easier to keep an eye on their participation. “It’s a big issue in the class with young kids,” says Rush. “These are children that need to be monitored. Classroom management is much better with the tablet.”

The most significant result of the completed vision, however, is an interactive learning environment that keeps students engaged in the subject matter. “This makes it fun for kids,” says Kim Sillcox, SAC’s Director of Communications. “We want our students to enjoy learning and should do whatever it takes to capture their interest and imagination. This makes it more exciting, more visual—I think that speaks volumes.”

Rush is as excited as his students. “The future is now,” says Rush. “It can happen in a classroom. This is a reality.”

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A SAC instructor utilizing a Fujitsu LifeBook T5010 connected wirelessly to a projector can better interact with the class.

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