

Research Perspectives



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Technologies of the **future** help study the **past**

by Tim Loughheed

Information technology has greatly improved the means of historical inquiry, but the demands of historical thinking have become even more challenging.

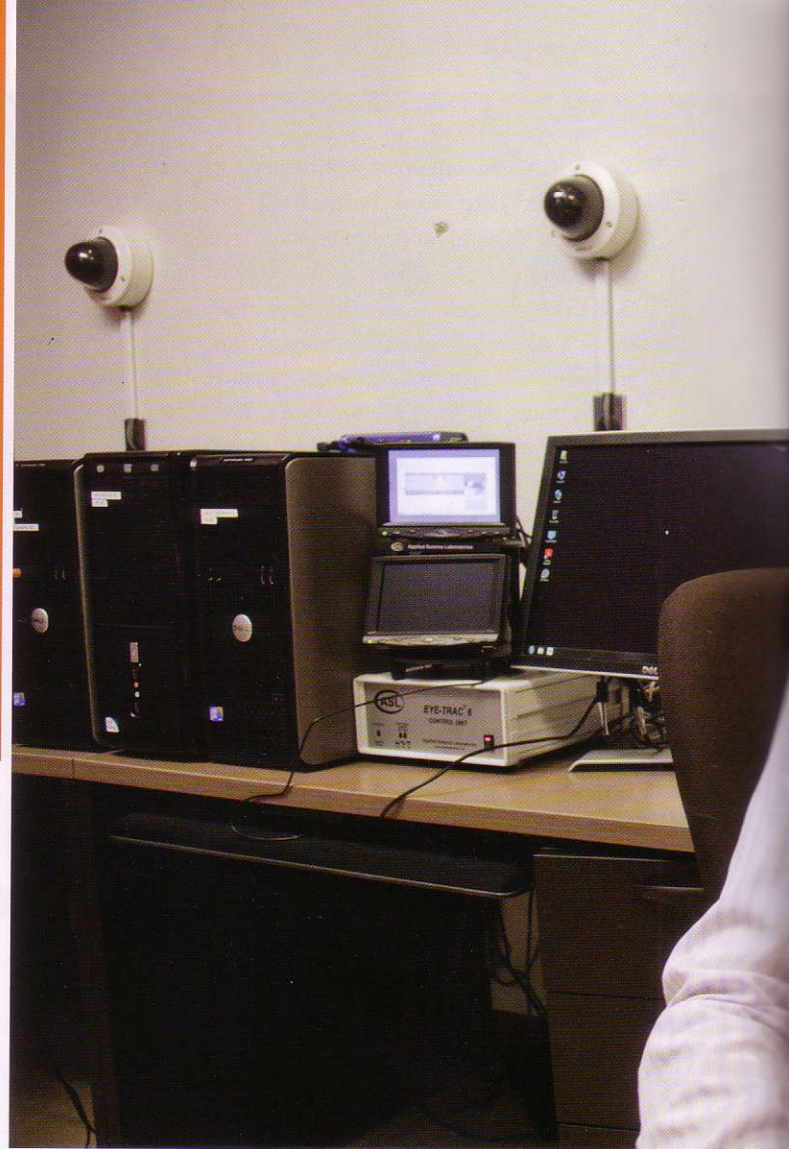
When Sony or Apple study how young people use information technology, they're primarily interested in learning how to sell more of their products and services. Faculty of Education associate professor **Stéphane Lévesque** also focuses on how people use tools. However, he's looking at something different—how this technology is shaping the way today's students collect and use information.

Lévesque's goal may not have the same financial incentive, but his findings are being welcomed by educators who must help the next generation develop the intellectual skills they need to cope with an unprecedented onslaught of facts and figures. And he has developed a collection of online tools that demonstrate how disciplines in the humanities can be marketed with the same entrepreneurial spirit as the latest computer game.

His example is the field of history, in which students must often travel far and wide to track down documents in a library, photographs in an archive or even artifacts in the attic of an old house.

Technology has revolutionized this approach. Where source materials were once rare and inaccessible, now accurate digital reproductions can be found in abundance through electronic networks. And even if such material is not readily available online, computers can find it for us more quickly than ever before.

But while technology can minimize the grunt work of historical inquiry, what remains unchanged is the need for disciplined thinking. For Lévesque, that kind of thinking poses a fundamental challenge.



"In many ways, history is natural," he says, noting that we intuitively create stories from our own lives. But most of these stories are simply the most obvious or appealing version of events, and historians seek much more. They constantly question the nature of source material, analyzing the evidence that explains how and why events unfolded.

Our newfound abundance of historical content can help this process, Lévesque acknowledges. Still, abundance by itself does not yield the skills necessary to engage the past in the most effective way. That's why he's studying how students use computer technology to locate information, and what can be done to hone their investigative abilities.

One obvious strategy is to take advantage of the popularity of computer games, which might be adapted to carry out various types of historical exercises. That's why Lévesque uses the lure of gaming to attract students to the Virtual Historian (www.virtualhistorian.ca), an online laboratory. It presents its subjects in a highly interactive way—one that avoids the difficulty of seeking any single "correct" interpretation of the past.

"The lab was created as an infrastructure for looking at how we can improve the learning experience," Lévesque says.



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Lévesque cautions that the site's activities should not lead players to seek "correct" answers based on the information provided. Instead, participants are encouraged to assess different sources of information, along with the value each source can bring to an understanding past events.

From a student's perspective, the site provides material on major events in Canadian history, such as the Battle of the Plains of Abraham, the Northwest Rebellion, the Battle of Dieppe or the October Crisis. Although everything is digitized, different materials are represented in original formats, such as maps, newsreel films and letters written by witnesses. Students choose their own path through this information, then write an online essay to put what they have learned into a coherent historical context.

Lévesque also uses the site as a research tool, comparing students taught in a traditional classroom with those who covered the same material through the Virtual Historian. When both groups took the same test, he found that those who had used the online program not only showed greater knowledge of the subject matter but also were better able to assemble structured arguments to support their accounts.

More recently, Lévesque has outfitted physical workstations with state-of-the-art software and hardware to collect details about how students go about the business of navigating the Web for research. The eye movements of users across the screen are tracked and recorded, as are the sites visited and the amount of time spent at each one.

For Lévesque, this is fundamental information about how the next generation of historians—as well as Web users in general—are employing this medium. But while this process is critical to educators, he maintains that there has been little research in the field. In fact, this work amounts to an invaluable form of knowledge transfer from the University of Ottawa to a variety of educational communities, including schools, museums and even companies training their workforces.

"We're trying to provide teachers with some tools to help develop those digital literacy skills that students need but that may not currently exist in the world in which the classroom operates," he says. "The Virtual Historian lab is just one modest way of trying to monitor the 21st-century learning experience." RP