

# Ideas on the Edge



## Why Doesn't Every Good Boy Do Fine?

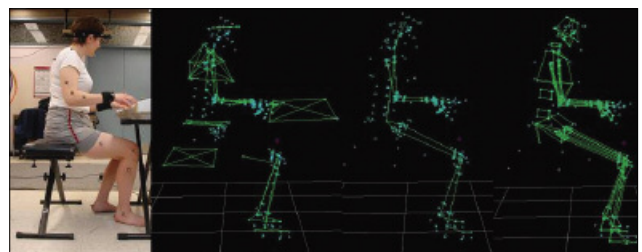
METHODS FOR LEARNING THE PIANO ARE MANY AND VARIED. UNIVERSITY OF OTTAWA RESEARCHER GILLES COMEAU IS APPLYING SCIENCE TO DISCOVER WHAT REALLY WORKS.

Piano instruction abounds with methods and mnemonics. But while devices like “Every Good Boy Does Fine” (the lines on the treble staff) may be helpful, learning the piano is a big challenge for students. The majority give up during the first year.

To find out how and why some people master the piano and some don't, Dr. Gilles Comeau has put together the world's first lab focused exclusively on the scientific study of piano pedagogy.

The University of Ottawa facility

brings together researchers with expertise in a variety of disciplines. “For every project in the lab,” explains Dr. Comeau, “there's usually a team of three or more



researchers coming from different fields: music, education, psychology, health sciences, information technology,

### RESEARCH THAT MATTERS REAL-WORLD BENEFITS FOR ONTARIANS:

- more effective outcomes for parents investing in music lessons
- reduction in repetitive stress injuries for piano students and pianists
- insights into learning that will enhance education in other fields

bio-engineering, neurosciences.”

The cross-disciplinary approach is opening up promising new lines of inquiry. “Dyslexia, for example, touches over 15 percent of populations in schools,” says Dr. Comeau. “That means it must affect music students as well. But no one has ever studied that.”



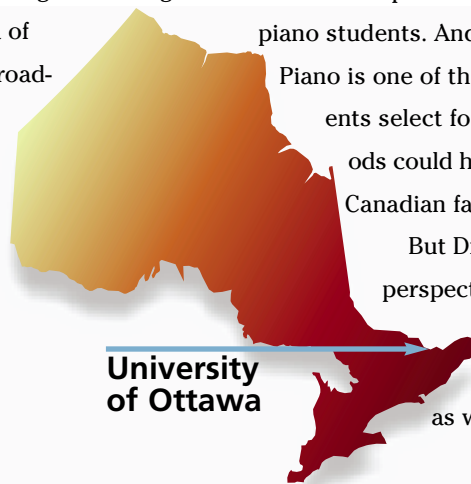
Scientists at the lab work with a suite of high-tech tools provided with the help of an investment by the Ontario Innovation Trust. Video cameras in the lab's studio are networked with digitally-enabled grand pianos, electronic keyboards and sophisticated software to track and analyze every aspect of the learning experience.

Researchers are also taking advantage of the high-tech environment to explore the idea of teaching piano at a distance, using broadband video-conferencing. Piano lessons are already available on the Internet in simple form, but Dr. Comeau and his colleagues are adding the powerful elements of sight and sound. "If you look at the traditional approach—working on posture, tone production, quality of

**Project:** Piano Pedagogy Research Laboratory  
**Institution:** University of Ottawa  
**Research Sector:** Arts and Letters  
**Principal Investigator:** Gilles Comeau  
**Trust Investment:** \$494,657  
**CFI Investment:** \$494,657  
**Total research investment from all sources:** \$1,236,642

sound—video conferencing is a natural tool." The lab is currently involved in a project with First Nations children aged five and six in northern Quebec. Dr. Comeau is also conducting a high-tech experiment with students in Finland. Sensors on his digitally enabled piano are connected through a special phone line to a similar instrument overseas, so that when he demonstrates a technique, the piano at the other end replicates his actions exactly. In the same way, he can also monitor and evaluate the performances playing in Finland.

When asked about the value of the research, Dr. Comeau has several answers. First, and most important, work at the lab will result in better strategies and tools for more effective teaching. More students will be successful in learning to play the piano, and the experience of learning will be more positive. Studies in the lab also promise to reduce repetitive stress injuries often suffered by piano students. And there's an economic rationale, too.



Piano is one of the top extracurricular activities parents select for their children. Better teaching methods could help maximize the large investment Canadian families make in lessons every year.

But Dr. Comeau also has a broader perspective on the lab's contribution. "Every time we study how learning happens in one field, it has impacts in others as well."



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## Infrastructure for Innovation About the Ontario Innovation Trust

The Ontario Innovation Trust was created in 1999 by the Government of Ontario to invest in research equipment and facilities at Ontario's universities, colleges, hospitals and other non-profit research institutions. The Trust is governed by a volunteer Board of Directors, according to the terms of a Trust agreement established by the Ontario government. A small permanent staff looks after day-to-day operations.

Since its inception, the Trust has committed almost \$843 million to strengthen Ontario's position in the global marketplace of ideas. This represents more than a third of the \$2.44 billion in total funding that has been invested in Trust-supported projects.