## Young pianist loves his lessons, but really hates to practise

Robbie Lemieux, who studies at a new \$1.2M piano research lab at the U of O, says he'll find practice easier now, having won the top Royal Conservatory medal for Grade 3 level, Matt Goerzen writes.

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Robbie Lemieux doesn't like practising piano.

He loves to play it, loves to perform -especially for an audience -- and loves
lessons with his teacher, Gilles Comeau. But
when it comes to practising, he would much
rather be out in the yard with his buddies,
playing on the impressive pirate-ship
playground his father built when he was two.

Robbie says he will now have an easier time with his 75-minute daily practice, though: He recently was awarded a silver medal from the Royal Conservatory of Music in Toronto, its top honour in the Ontario region for Grade 3-level piano playing.

"I'm actually quite grateful that I've been (practising)," says the composed 11-year-old, "because it's paid off."



CREDIT: Julie Oliver, The Ottawa Citizen

Robbie Lemieux, 11, recently won a silver medal from the Royal Conservatory of Music, its top honour for Grade 3-level piano playing in the Ontario region.

Robbie is one of 10 students studying under Mr. Comeau, the director of the University of Ottawa's new \$1.2-million Piano Pedagogy Research Laboratory. Mr. Comeau is using the high-tech equipment in the unique lab to study many things related to piano learning and teaching.

During their lessons, Robbie and the other students are filmed, recorded and analysed. The benefits are twofold: The students can learn by reviewing their performances and studying their errors, and Mr. Comeau and his research team can use the data to conduct their numerous studies.

Mr. Comeau came up with the idea for the lab to advance scientific knowledge on piano learning -- a topic that he has studied for his entire academic life. The lab was finished in October with the help of matching \$494,657 grants from the Canadian Foundation for Innovation and the Ontario Innovation Trust, and \$257,328 from a variety of sources, including Yamaha Canada and the U of O.

The heart of the lab is a studio on the second floor of the Perez Hall building. It's a simple space featuring two pianos in the middle of the room, surrounded by a wall covered in books, large windows casting light on a garden of plants, and acoustic panelling akin to post-modern art.

"It was important that it look like a regular piano studio," says Mr. Comeau.

The only hint of the studio's powerful capabilities is a pair of LCD screens hanging above the pianos and three unobtrusive cameras around the room.

What you don't see is the loads of hidden gizmos: video-conferencing capabilities, infra-red sensors in the pianos, and cutting-edge computer programs that can analyse sound and video recordings.

The applications are broad: A pianist's hand and body movements can be captured from different angles and analysed by a computer for proper posture. The computers can use the camera data to assemble a three-dimensional model of the pianist.

The pianos are wired with infra-red sensors that can create a computer sequence of whatever is played, so it can be played back electronically.

Students get to see their errors, analyse them in 3-D and then watch an identical playback by the piano. If they hit a key too softly, even that will be mimicked as they watch the replay.

"Once they can see that happening, when they become aware of it, they almost instantly correct it," says Mr. Comeau.

The video-conferencing room can be used to teach lessons remotely. Mr. Comeau has a class in Finland and one in Kangiqsualujjuaq, a remote Inuit community in Northern Quebec.

The researchers' studies extend to areas of health, as well. Sixty-one per cent of classically trained professional pianists and 45 per cent of piano students will experience an illness, such as carpal-tunnel syndrome, from playing.

Using thermal-imaging cameras and movement analysis, the researchers can identify positive and negative movements and see what is happening to the body.

"When we say warming up (before playing), does it really warm up, or is it just an expression?" says Mr. Comeau.

Mr. Comeau also wants to create user-friendly learning software that can be used by piano students and teachers who don't have access to a million-dollar facility.

"The possibilities are endless right now, with the technology that is there," he says.

Just one of the lab's projects is a study of what motivates some piano players, like Robbie, to keep playing -- despite long hours practising -- while others drop out.

Mr. Comeau's team of researchers are studying a number of factors, including internal dedication, family support and natural musicality, in an international sampling of students. The results may help them find new ways of encouraging and appealing to students.

Mr. Comeau says he never found practising easy, either.

"Every day I was hoping I wouldn't have to practice," he laughs. "It's a very big dilemma."

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