A high note for piano research

A $1.25-million laboratory for research into piano pedagogy officially opened at the University of Ottawa's faculty of music in October, in a celebratory mood. There was gratitude to spare, there was awe and delight as guests toured the colourful five-room facility, with its "smart" pianos, its infrared cameras, recording devices and custom software providing precise feedback on a pianist's sound, touch, tempo and arm motion. There was even music, provided by seven-year-old piano student Rebecca Mango.

The lab – one of the few humanities projects to be awarded funds from the Canada Foundation for Innovation – began as a dream in the mind of piano professor Gilles Comeau, now its director. "I wanted to have a space that would be dedicated to *how* piano learning happens," says Dr. Comeau, and to "how teaching can be improved." Piano playing, he notes, is a very complex process for young children, involving many skills: cognitive, motor, affective and audio. Why do some students learn more easily than others, or do better with some skills?

He says piano education has rarely been the focus of pedagogical research, partly because most piano teachers come from the performing side, not from teaching. And when research into musical teaching does take place, it's easier to study children playing violin or wind instruments in a class; piano lessons are usually done privately.

The Piano Pedagogy Research Laboratory, said to be the only one in the world, is truly interdisciplinary in nature. Each of the 13 research projects now under way involves researchers from more than one discipline, among them music, information and communications technology, engineering, psychology, and kinesiology. Seven institutions are involved, including two in Finland. Eight graduate students in engineering and three in music have already trained in the laboratory.

The lab includes a recording studio equipped with two Yamaha Disklavier grand pianos, a sophisticated form of the old player piano: the piano plays back a replica of the notes performed by a pianist, including pedal movements. Students taking lessons here can no longer argue that they *weren't* playing too fast – next door in the multimedia control centre they can see graphs on a computer screen showing how their sound intensity and tempo compared with that of the teacher or with a normative performance.

Mélanie Provencher

Dr. Comeau with a student in the new U of O piano lab.

A crucial collaborator in designing the lab was Martin Brooks, a scientist with the National Research Council of Canada, who met Dr. Comeau "by luck" when they were both trying to borrow the same Yamaha piano from an Ottawa music store for their research. The NRC and Communications Research Canada, along with other partners, had been working to establish music programs in remote communities using video conferencing. The U of O lab has joined that project, called Music Grid.

The Ottawa arm of the project has revealed some tantalizing preliminary data on how piano is taught. U of O graduate student Erin Parkes began teaching piano remotely to five- and six-year-old Inuktitut-speaking students in Kangiqsualujjuaq, Northern Quebec. Using eight keyboards donated by Yamaha Canada, and with Ms. Parkes based in Ottawa and a translator and teacher (not a musician) helping out in their classroom, the children took 34 lessons by video-conferencing, using the Yamaha Method. They each practiced three times a week, for 15 minutes.

Ms. Parkes also taught a control group class of students the same age in Ottawa, but face-to-face. After 34 lessons, the students in Northern Quebec were doing just as well as those in Ottawa. – *Peggy Berkowitz*