Lemay, C. & **Comeau, G**. (2008, June). *The use of eye-tracking technology to measure the effect of illustrations in piano method books on the cognitive processing of musical notation by young students*. The Neurosciences and Music III: Disorders and Plasticity. McGill University, Quebec, QC.

Method books for the piano are among the principal tools used by piano teachers for the instruction of young beginners. Many of these books have a large amount of colourful illustrations. These illustrations raise significant questions from a music-reading perspective: what is the impact of these colourful sketches on the cognitive development of music reading and does their presence, as a potential source of distraction, lower the quality of performance? The purpose of this research was to determine the impact of these illustrations on the cognitive processing of musical notation, as no research has yet been undertaken to study their effects.

The ocular behavior of nine piano students was recorded while they read two musical scores. One piece was presented with illustrations that made up approximately half a page, while the other piece was presented without illustrations. In order to assess eye-movements during a 30-second preview of a piece and the performance of the same piece, the EyeLink II, a mounted binocular eye-tracking device, was used. The data provided the number of eye fixations on the picture zone of the page, and made it possible to analyze the number and duration of the fixations on the picture zone relative to the music zone. The study revealed that 6.5% of total fixations occurred in the picture zones on average during both the preview and the performance of a piece, while fixations were in the picture zones for 5.3% of the total preview time and 3.9% of the performance time. The highest number of fixations recorded in the picture zone was approximately 20% for both the preview and the performance, indicating that, in some cases, illustrations present a severe cognitive distraction from the musical notation, undoubtedly affecting the performance.