
Editorial: Passes and fails in technology-based methods in educational research

The current issue of *Pedagogická orientace* lives up to its name both in content and in fate. After a delay we hope it will pass in reader's eyes and deliver interesting ideas concerning using technology-based methodologies in educational research. The idea behind this issue was to provide space for researchers to share not only research successes but also new avenues, dead ends and methodologies with room for improvement. The papers presented do just that.

The first paper, by Martina Kekule, Iva Spanova, and Jouni Viiri describes an approach to studying the solving process of physics tasks in a test setting. It follows two low prior knowledge students as they try to answer multiple-choice tasks regarding Newton's laws. The paper uses eye-tracking methodology, generally associated with quantitative approach, to highlight the differences between the two solving processes in a qualitative way. In doing so it identifies processual characteristics that would otherwise go unnoticed, and which can contribute to our understanding of students' approaches to multiple-choice tasks and to improvement of support measures for said students. From a methodological point of view, it opens door to qualitative analysis through eye-tracking methods in educational settings.

The paper by Christina Ioanna Pappa, Christian Kosel, Katharina Schnitzler, and Tina Seidel discusses a quality issue of studies that use eye-tracking in teacher research, specifically when it comes to the accuracy level of raw data and to drawing dynamic areas of interest (AOI). These factors influence the analysis and results of studies that track teachers' gaze when watching dynamic stimuli (mostly a video of a classroom situation). In how much do different levels of accuracy accepted by different studies influence the results? How much is the choice of different methods of drawing dynamic AOIs reflected in the recorded values of common eye-tracking metrics? Does this influence the comparability of available studies on teacher gaze? Do we need more precise guidelines for the use of eye-tracking data collection and analysis methods in this area of research? This and more is answered in the paper.

Finally, the discussion paper by Craig Hochbein documents a journey identifying, trying out, rejecting and starting again with novel methods

in research on school leader time use. The paper posits that technology advances should allow us to move beyond observation and self-reports when it comes to investigating how school leaders use and manage their time. It discusses the limits of traditional methods used and describes an adventurous endeavour to overcome them through technology. The author addresses issues encountered when piloting methods for tracking movements of research participants through wireless networks and Bluetooth beacons. The glimpse into the research backstage is rare and thus so very important.

We believe that academic journals should provide space not only for completed research but also, in one way or another, for research that could not be finalized. The dissemination of knowledge in the research community should address the victories as well as the dead ends – so that we can appreciate the work that went into finding them and exploring them but also so that no one has to hit them again.

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