Keynote presentation

"Multimedia-based Performance Assessment in Dutch Vocational Education"

by Dr. Sebastiaan de Klerk

Abstract

During this keynote, I will present the results of my four-year PhD research on the introduction of a new type of assessment, which we have called Multimedia-based Performance Assessment (MBPA), in Dutch vocational education and training (VET). An MBPA can be considered as a computer-based performance assessment. The assessment incorporates multiple forms of multimedia and can be used to measure skills that would normally be measured in a traditional performance-based assessment (PBA). PBA is a very common form of assessment in Dutch VET. The goal of the presented research was to investigate whether the MBPA could be a more efficient and effective way of assessing performance skills. Both qualitative and quantitative evidence is presented to substantiate the use of MBPA in Dutch VET. Qualitative research consists of literature study on the measurement properties of PBA, the current state of MBPA and simulation-based assessment, and the design and development op MBPA. Quantitative research consists of two experimental studies in which a sample of students have both performed in a PBA and two MBPA's. First, a validity study has been carried out to investigate to what extent the MBPA can be used to measure skills that are required to perform a specific vocation (i.e., confined space guard) and that are currently being measured in a PBA. Finally, in a psychometric study, using Bayesian network modeling, the measurement properties of the MBPA and its latent ability structure have been determined.

Short bio

Sebastiaan de Klerk currently works as a researcher at eX:plain, a foundation that broadly aims to improve measurement practice in vocational education, and the Research Center for Examinations and Certification, a collaboration between the University of Twente and Cito (the Dutch national institute for measurement). His research mainly focuses on the development and evaluation of simulation-based assessment in the vocational education domain. Sebastiaan obtained his PhD in educational measurement (January 2016) from the University of Twente in the Netherlands.