EDUCATIONAL PROCESS MINING – CLUSTERING STUDENTS' TEST-TAKING BEHAVIOUR IN INTERNET-BASED SIMULATIONS

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There are a growing number of educational assessments using simulated environments to improve the reliability and validity of results. These modern measurements exploit the advantages of computer-based testing mostly in the field of professional test development and test delivery, but rarely in studying how students interact with the assessment system when completing tasks. In this paper we aim at demonstrating a possible way how to analyse students' activities in simulations. Our study is based on log data from a study of *Pfaff* and *Goldhammer* (2011) where ICT literacy skills of German students were assessed. The logs used for the investigation describe students' interactions with the e-assessment environment in an unstructured form. In order to be able to analyse test-taking behaviour, we applied educational process mining techniques enabling us to extract process-related knowledge from log entries and, in our case, discovering similar test-taking behaviour of students. The first results are presented in this study. To discover differently behaving groups of students we used K-means Clustering algorithm. Based on the cluster analysis we identified four subgroups of students. The first two clusters characterized participants giving incorrect answers, and the other clusters' members had high probability of success on these simulation items, but they differed in efficiency in solving information problems.