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The analysis of the educational measurement results, and its providing as "software-as-a-service" solution in eLearning

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In modern eLearning systems, educational measurements are used both to evaluate the students' achievements, and to control the learning process. However, eLearning systems usually have comparatively trivial embedded features for analyzing measurement results, which are not of considerable interest for sufficient statistical research of the assessment tools quality. To identify the characteristics of assessment materials, such as reliability, homogeneity, discriminatory power, validity, and others, the researcher is forced to get dump from the database of eLearning system. And then they use third-party software to perform required data processing operations and calculations. This makes it difficult to analyze the measurement results during the measuring itself, for example, in adaptive testing. We propose the approach to organizing and performing measurement results analysis by using the software-as-a-service (SaaS) model for cloud computing. The SaaS user is provided with the set of necessary tools for conducting full-fledged statistical analysis in real time. They also get the access to customizable applications for implementing their own measurement procedures (including adaptive ones).
Keywords: educational measurement, eLearning, SaaS, assessment tools, statistical analysis.

Summary

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