

Repository Platform for Motivating Education

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Keywords

Course design, Didactic methods, Study motivation, Lecture modeling, Lecture repository.

1. EXTENDED ABSTRACT

Despite market demand, there is a lack of university graduates, especially in Information Systems (IS) (Granger et al., 2007). To attract both prospective and first-year students to pursue an academic education, universities have to provide a motivating study environment. A recent study reports a dropout rate of 35% for German university Bachelor programs and identifies lack of motivation as one of the main reasons (Heublein et al., 2010). To investigate the effect of showing the practical relevance of theoretical knowledge to students we provided a one-day lab with a fictitious but realistic use-case at Karlsruhe Institute of Technology (Caporale et al., 2013a). The general lab setting focused on Business Process Management (BPM) and students got the objective to model and improve the business processes of a fictitious company. As the evaluation of the lab showed, many students perceived the lab as a factor contributing to a better understanding of the connection between practical and theoretical aspects of BPM. To extend the lab we propose an integrated teaching concept which does not only consider theoretical foundations as defined in the curriculum (Learn), but also embraces the fields of science (Research) and professional practice (Apply) (Caporale et al., 2013b). To this avail, the fictitious company setting was developed further to provide a generic framework to derive appropriate use cases in order to enable a problem-oriented and holistic learning approach. This way, students directly experience the relevance and applicability of theoretical knowledge which in turn raises motivation.

The paradigm shift towards student-centered learning documented in the trend report prepared for the UNESCO 2009 World Conference on Higher Education by Altbach et al. (2009) emphasizes the need to involve students actively in the learning process. According to the authors, there is a trend towards imparting functional knowledge (e.g. the knowledge how to apply theory to practical situations) rather than solely teaching declarative knowledge which has to be memorized and regurgitated. This philosophy is exactly in line with our concept.

We are currently developing a platform to support the modeling and instantiation of modern university courses according to our concept. Essential part of this platform is a repository layer, which includes three main repositories: (i) a service repository, which offers functionality for collaboration and communication between participants as well as other course-supporting software like document management; (ii) a course administration repository, which provides general course management tools like course evaluation and user subscriptions and (iii) a didactic repository, which is the most important part as it contains didactical and methodical components as well as an examination toolbox, the fictitious company and the learning content itself. The four components (method, exam, learning content and use case) can be combined to learning items which are also stored in the didactic repository.

Above the repository layer, there is the course layer that contains the course modeler. With the help of the course modeler, lecturers can combine and orchestrate the desired repository elements from the repository layer to generate a course instance. Based on the platform integration, the selected elements can be evaluated during each instantiation to allow cyclic and continuous improvement.

As technical foundation the platform has a data layer, which consists of a database and a file server. Additionally a platform administration layer includes access control, user management and repository management features.

2. REFERENCES

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Timm Caporale graduated in business engineering from Karlsruhe Institute of Technology (KIT). Currently he is a research associate at the Business Information Systems chair of the Institute of Applied Informatics and Formal Description Methods (AIFB). His research areas are integrated campus information management and research-based education.



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