Computing

Personalized Adaptive E-learning System - Mitigating the Risk of Rashomon Effect Occurrence in Higher Education

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Personalized adaptive E-learning system is a learning system based on learner’s feedback, his or her multiple intelligence and learning style. In traditional higher education when conducting lectures there is a risk of Rashomon effect occurrence. Rashomon effect can be simply defined as how a group of people react to the same incident in a different way. In education this definition can be turned into how a group of people react to same lecture material in a different way. The problem is how to mitigate occurrence of this risk. This study proposes an adaptive learning system as a solution, which is mainly focused on mitigating the risks of Rashomon effect in the learning process and improving learners’ success of learning based on personalization information like learning style, cognitive style or learning achievements. This innovative adaptive learning method is proposed based on considering two major sources of personalization information: learning behaviour and personal learning style. To find out the significant learning styles of the learner, an assigned test - The VARK (Visual, Aural, Read/Write, Kinesthetic) Questionnaire is employed. When adjusting learning materials, it is required to consider learning behaviour of the learners, and the interactions and learning results of learners have to be recorded and analysed using machine learning techniques. Further, it is required to also use Bayesian modelling to model a student’s ability. Based on these information, this study, as a solution, proposes the development of an adaptive e-learning system.

Keywords: Personalization, Adaptive E-Learning, Bayesian Modelling