

Relative Difficulty Analytics Between Learner and Learning Contents

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Abstract

As distance education services develop, much research is being conducted to analyze learners' learning activities and provide a customized learning environment optimized for each individual learner. The personalized learning environment is basically determined based on learner-centered learning analytics. However, learning analysis research on learning content, which is the subject of interaction with learners, is insufficient. In order to recommend learning content to learners and provide the most appropriate learning evaluation method, the learner's learning ability and the difficulty of the learning content must be appropriately analyzed. In this research, the relative learning difficulty of the learning contents and the learner is analyzed, and through this, the learner-relative learning contents difficulty is analyzed. For this purpose, educational (learning) contents Data, Learning Operational Data, Learner Personal Learning data, Peer Learner Group Data, and Learner Statistical Data are collected, stored at learning records storage server and analyzed by the Learning Analytics System with several Deep Learning models. Finally, we find the absolute difficulty of the subject, the relative difficulty of the subject, the relative difficulty of the peer learner group, the relative learning ability of the individual learner, the absolute learning ability of the individual learner, the relative difficulty of the subject for each individual learner, and the absolute difficulty of the subject for each individual learner, and based on this, personalized learning contents are created and decide.

Keywords

Learning Contents Difficulty, Learning Analytics, Deep Learning Analytics Model, Learning Contents