

Pattern Discovery from Student Feedback: Identifying Factors to Improve Student Emotions in Learning

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Abstract : Interest in (STEM) Science Technology Engineering Mathematics education especially Computer Science education has seen a drastic increase across the country. This fuels effort towards recruiting and admitting a diverse population of students. Thus the changing conditions in terms of the student population, diversity and the expected teaching and learning outcomes give the platform for use of Innovative Teaching models and technologies. It is necessary that these methods adapted should also concentrate on raising quality of such innovations and have positive impact on student learning. Light-Weight Team is an Active Learning Pedagogy, which is considered to be low-stake activity and has very little or no direct impact on student grades. Emotion plays a major role in student's motivation to learning. In this work we use the student feedback data with emotion classification using surveys at a public research institution in the United States. We use Actionable Pattern Discovery method for this purpose. Actionable patterns are patterns that provide suggestions in the form of rules to help the user achieve better outcomes. The proposed method provides meaningful insight in terms of changes that can be incorporated in the Light-Weight team activities, resources utilized in the course. The results suggest how to enhance student emotions to a more positive state, in particular focuses on the emotions 'Trust' and 'Joy'.

Keywords : actionable pattern discovery, education, emotion, data mining

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