

Application of Topic Modeling Approach for Studying Students' Feedback on Teaching

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Abstract

Student feedback on teaching in higher education institutions reflects their satisfaction with the teaching quality; assist in improving teaching, and in administrative decisions such as faculty promotion. Student evaluation of teaching (SET) questionnaires with closed and open-ended items are commonly used to obtain students' feedback about the teaching quality. However, only several studies have focused on students' feedback from their responses to the open-ended questions. This study aimed to fill this void by uncovering the topics students addressed in their feedback on teaching and patterns that characterized their responses to the open-ended questions on the SET questionnaire. The verbal responses of students who attended 690 courses (one course by each instructor) in a major Israeli university were analyzed using a topic modeling approach via the LDA algorithm within the R software. The SET questionnaire includes two open-ended questions: What are you satisfied with within the course? What requires improvement? The data analysis, specifically topic modeling of the students' feedback, yielded 29 major topics grouped into three super categories: characteristics of good teaching, course characteristics, and lesson characteristics. Furthermore, patterns of students' responses were detected, indicating that teaching descriptors appeared together in their responses with a different probability. The study findings can assist in developing training programs for university faculty to improve teaching and increase student satisfaction with university teaching.

Keywords: Student feedback; teaching quality; topic modeling; data mining; LDA.