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Active Learning Teaching Activities for Motivation and Engagement in a Research Methodology Course - A Pilot Study

The preconceptions of the students regarding research methodology and its applicability for their future employment, together with the complexity of the course material, lead commonly to difficulties in the learning process and lack of motivation and engagement.

Previous studies investigated the validity of applying active learning and other teaching techniques in opposition to the traditional lecture model during research methodology courses in several educational areas.

In this paper, the problem of students' motivation and engagement in a research methodology course in computer science is addressed by running a pilot study, including active learning activities. A comparison study between the traditional lecture and the active learning lecture has been conducted, evaluating students' observations collected with questionnaires and the report assignment quality in the course.

The results of the questionnaires showed an ambiguity of students' perception of the benefits of the active learning lecture in comparison to the traditional one.

However, the assessment regarding the topic presented during the active learning lecture indicated the satisfactory quality performance of the students suggesting overall positive outcomes from the active learning technique.

This pilot study is a starting point for a more comprehensive analysis of the research methodology course in order to identify which elements should be modified to increase students' motivation and engagement further.

For example, one of the conclusions derived from this first study has been the importance of balancing the amount of challenging tasks during active learning lectures, since a too full activity plan might induce students' tiredness and influence their level of engagement during the session. Furthermore, as measurable benefits of the active learning lecture were observed, further active learning lectures will be integrated during the next run of the course. These changes should eventually lead to an improvement in the performance and achievement of higher grades.