

Toward Data-Driven Design of Educational Courses: A Feasibility Study

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ABSTRACT

A study plan is the choice of concepts and the organization and sequencing of the concepts to be covered in an educational course. While a good study plan is essential for the success of any course offering, the design of study plans currently remains largely a manual task. We present a novel data-driven method, which given a list of concepts can automatically propose candidate plans to cover all the concepts. Our method uses Wikipedia as an external source of knowledge to both identify which concepts should be studied together and how students should move from one group of concepts to another. For our experimental validation, we synthesize study plan for a course defined by a list of concept names from high school physics. Our user study with domain experts finds that our method is able to produce a study plan of high quality.