Scaling Instructor-driven Personal Support Actions

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In conventional learning environments, instructors are typically faced with the trade-off between the quality of the student experience and the workload in terms of hours dedicated to deliver that experience. This trade-off is exacerbated in the context of courses with large student cohorts. In these scenarios, instructors are fully aware of strategies that would increase the quality of a course such as frequent, personalised feedback, but the required resources significantly reduce (if not completely remove) the catalog of support actions.

In the ideal one-to-one scenario instructors establish a conversation with the student to gain insight about their current state in terms of the learning objectives, select the most appropriate support action, and deliver it to the student usually verbally, visually or both. If we try to scale this scenario, all three stages face significant challenges if we aim at maintaining a completely human-based approach. Technology may provide support when scaling these three steps: gaining insight, selecting a support action, and delivering it to the student. But with it comes to technology, a second trade-off appears, that of the effectiveness of a tool versus its complexity of creation and deployment. A tool may provide an effective scaling of one of these stages, but they are very complex to design and/or equally complex to gain adoption by the regular instructor.

The step that has received the highest amount of attention in the research community is the second: choosing the most appropriate support actions. The areas of intelligent tutoring systems and artificial intelligence for education contain multiple approaches to automate this decision based on representations of the state of the student, the domain of knowledge, the available resources, etc.

1. RELATION WITH LEARNING ANALYTICS

The current ubiquity of technology mediation in learning experiences offers a very rich set of data from which to gain insight about student engagement. The area of learning analytics has focused research efforts mostly on how to use the data to create predictive models and to increase awareness through visualisations. However, the use of data is most useful when used to produce actionable items, that is, when the data drives changes in a learning experience.

This workshop is structured to explore how to establish this connection between data and actionable items making that connection in terms suitable for adoption by a wide range of instructors.

2. STRUCTURE OF THE SESSION

In this two hour workshop we propose to explore configurations that use technology for the first and third stages, that is, gaining insight and delivering support actions, but capture the expertise of the instructor in ways suitable to be integrated.

The workshop will also assume the existence of a comprehensive set of indicators characterising the student engagement with a course. These indicators provide a vocabulary with which instructors may articulate the selection of support actions. The result is then assumed to be the input of an additional platform that will deliver it to the students.

The discussion in the session will be motivated by a brief description of two real-life scenarios of courses with large student cohorts that provide scalable personalised feedback.

3. OUTCOMES

The discussion of the two examples with set the session so that the attendees work in groups and design additional scenarios with the following three components:

- Assumptions about the indicators available to the instructors.
- Description and encoding of the actions selected.
- Requirements for the delivery of the actions.

The workshop will finish with a final discussion in which each team will briefly describe their scenarios. Attendees do not require any computer or software tool.