

Student Motivation in Interactive Online Learning

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It is important for students to be motivated to learn and gain new knowledge in fields they are studying. For this reason many teachers try to make their classes as motivating as possible. Modern age enables teachers to use different ways of teaching, one of them being interactive online learning system. One of the advantages of online learning is that student can move at his own pace, repeat any lecture he did not fully understand.

Online learning systems also bring certain difficulties, one of them being less human contact with the teacher. This can cause loss of motivation for student as he is not physically present in class.

Our project is about increasing motivation of students using interactive online learning systems in order for them to learn more. Motivation, which refers to “the reasons underlying behaviour” [2] is divided into two categories: Intrinsic and extrinsic motivation. As Deci et al. [1] observe, “intrinsic motivation energizes and sustains activities through the spontaneous satisfactions inherent in effective volitional action. It is manifest in behaviours such as play, exploration, and challenge seeking that people often do for external rewards”. Extrinsic motivation, on the other hand, is influence by rewards, whether they are physical, for example money, or not, for example promotion or higher prestige and standing in community.

We are focusing on multiple elements which should increase both extrinsic and intrinsic motivation and therefore complement each other in motivating students. These elements are divided into three categories:

- Rankings
- Community
- Feedback

Rankings involve points for completing tasks, for helping others and badges for completing challenges inside the system. Badges will be awarded to students by

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proving themselves in completing challenges set by the teachers. For example completing certain amount of task will award student a badge.

We think that important part of motivating students is to enable them to be part of larger community. This way students can work together towards goal whether it is just helping each other with simple tips and advices, or by trying to solve tasks together or even compete in trying to solve them faster than others. To further increase community and ways to friendly compete with other students we decided to make their badges and results public. This means that students can compare each other's results and decide to push their limits to prove to others that they are better.

Feedback is category consisting of elements that are supposed to help struggling students. With each attempt to solve a task that fails because the solution proves to be inadequate, student is given reason for evaluation that returned information that task has not been completed successfully. With this reason provided student knows where he needs to improve and what he needs to focus on. He can complete even harder exercises which will provide more intrinsic motivation based on the success and also more extrinsic motivation that is accompanied by badges and points awarded for completing these harder tasks. Without such information, student would not know what is wrong and even despite his willingness to successfully complete the task, he might not be able to and that could cause frustration and anger and eventually loss of motivation.

We will compare these categories among each other and evaluate their effects on students. Since motivation can cause changes in behaviour of student in different manner we wish to evaluate all of the possible effects such as time spent in system, amount of tasks completed, time spent completing tasks, amount of attempts submitted, etc.

We expect that providing students with feedback will increase amount of times they submit tasks for evaluation, as opposed to leaving it alone and moving to next exercise. Badges will foster behaviour which is rewarded by them, in our case it is number of tasks completed, number of comments posted on forum and special badge for being first to solve any task.

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