

Measurably Increasing Motivation in MOOCs

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Abstract. A key challenge in online learning is keeping students motivated. We report an experiment that added motivational messages to students solving mathematics problems on the KhanAcademy.org platform. By simply adding sentences above the text of a math problem, students attempted (successfully) a greater number of problems, were more likely to acquire exercise proficiencies, and even solved a larger proportion of attempted problems correctly. The key feature for producing these measurably improved outcomes was in using messages that emphasized that intelligence is malleable – e.g., “Remember, the more you practice the smarter you become!”. Control conditions that provided neutral science facts or even positive messages – e.g., “This might be a tough problem, but we know you can do it.” – were not as effective. There are many pedagogical strategies that instructors of online courses might hypothesize will increase motivation; these findings underscore the value in empirically testing such predictions, using the unique data that is now available in MOOCs.

Keywords: motivation, MOOCs, learning, mindset