

# Researchers examine the effectiveness of a psychological strategy on online learners

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René Kizilcec, doctoral candidate in communication, is lead author of a study showing that a simple writing activity increased online course completion rates for those from individualistic, but not collectivist, cultures. (Image credit: L.A. Cicero)

While online education has opened access to learners worldwide, new

Stanford research suggests that a single approach to teaching everyone in an online class may not yield the best outcome, especially when it comes to course completion.

The key, the Stanford researchers say, is to recognize cultural differences among class participants, especially the difference between cultures that celebrate the power of the individual versus those where the good of the group comes first. Instructors can then tailor teaching strategies to best meet the learners' needs.

In a new study published last week in *Proceedings of the National Academy of Sciences*, the researchers found that the use of a simple writing activity increased course completion rates for those from individualistic, but not collectivist, cultures. The results support the need for tailored strategies – based on cultural backgrounds – that can be scaled and help millions of learners worldwide.

"Educational researchers have studied students either by observing them in classrooms or through controlled laboratory experiments," said René Kizilcec, a Stanford doctoral candidate in communication and the study's lead author. "For the first time, we have a lab in an authentic learning environment with large and diverse groups of people participating. Now we can learn much faster about how to support different learners through rapid experimentation and big data."

## **The allure and challenges of learning online**

Online learning has surged in recent years with the proliferation of massive open online courses, or MOOCs, which provide learners of all educational, geographic and socioeconomic backgrounds the opportunity to glean knowledge from experts and scholars around the globe. More than 58 million people have enrolled in MOOCs between 2011 and 2016, according to the researchers.

But despite their popularity, course completion rates for MOOCs are only about 10 percent, and just 25 percent for learners categorized as "highly committed," according to the study.

Reasons for high attrition in MOOCs vary. Kizilcec and the study's co-author, Geoffrey Cohen, a professor at Stanford's Graduate School of Education and Department of Psychology, cite a lack of external or social pressure to complete courses and little support or guidance in online learning environments among them.

Kizilcec's prior research suggests the benefits of psychological intervention strategies to support online learners based on their socioeconomic status. But what effect, if any, those interventions would have when applied to culture was unclear.

That drove Kizilcec and Cohen to explore the issue analyzing individualist cultures, such as the United States, and [collectivist cultures](#), such as China and India. Their study involved 18,000 participants from more than 80 countries who enrolled in two Stanford online courses.

## **The 8-minute intervention**

The intervention consisted of a two-part writing activity, lasting about eight minutes. It is based on a psychological strategy that involves weighing positive outcomes against obstacles in the way and identifying ways to overcome those obstacles.

First, participants wrote about two positive outcomes and two obstacles regarding their online course. Second, they crafted "if-then" plans for overcoming the obstacles. For example, "If I'm too tired to study after work, then I'll make coffee."

The study involved two similar experiments. When examining the entire

data set, Kizilcec and Cohen found that the writing activity had no substantive effect. But when they analyzed the effect along cultural lines, they saw that learners in individualistic cultures were more likely to complete the course – 32 percent more in the first experiment and 15 percent more in the second experiment – following the intervention. By contrast, learners in collectivist cultures did not benefit at all from the intervention.

Upon closer inspection, the researchers found a specific group of online learners that benefited the most: online learners from individualist countries dealing with easily surmountable obstacles, such as work or family obligations. Those learners were 78 percent more likely to complete the course following the intervention.

But when dealing with practical constraints such as no internet connection or a lack of time, the intervention did not have an effect.

"If you're in a less-developed country and the internet is out for two or three days, there's not much you can do, even if you plan ahead," Kizilcec said.

## **Potential remedies**

The responses from the study's participants gave the researchers insights into the types of obstacles learners in different cultures face. It showed that the obstacles encountered by participants in collectivist cultures were more challenging than those of their individualistic counterparts. The researchers also interpreted from survey responses of Indian participants, in particular, that their social environments were more complex and the "if-then" plan "oversimplified the uncertainty of their real-life situations."

"Just because a result is established in the literature doesn't mean it will

replicate everywhere," Kizilcec said. "The if-then approach to making plans resonates with Western individualistic tendencies. It is very analytic and it requires a sense of personal agency and a willingness to structure uncertain life situations. But once you take it to a more collectivist context, as we can see, it doesn't work as well."

To combat these barriers, Kizilcec suggested that online learners from collectivist cultures employ social accountability. By talking, emailing and texting friends about their involvement with MOOCs, they can create a support system to keep them engaged and be more likely to complete the course. Also, because the goals identified in the study were broad, open-ended goals provided by the researchers, Kizilcec said that collectivist learners may respond better to personal, specific goals of their choosing.

The positive outcomes delivered to these [learners](#) are not confined to the online education space, said Kizilcec, and can be applied in numerous settings, including classroom education, health and business. Add in the fact that the cost to scale and time required for participants is minimal, Kizilcec said these types of interventions could make an immediate and profound impact.

"We can provide this kind of activity to many people at no cost," Kizilcec said. "It takes only a few minutes for people to fill out and almost no time to implement. It could help millions of people, especially if it is targeted at those who are expected to benefit."

**More information:** René F. Kizilcec et al. Eight-minute self-regulation intervention raises educational attainment at scale in individualist but not collectivist cultures, *Proceedings of the National Academy of Sciences* (2017). [DOI: 10.1073/pnas.1611898114](https://doi.org/10.1073/pnas.1611898114)

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