Gaps in required curricula may explain differences in climate change acceptance among college graduates

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The average American college student has just a 17 percent chance of learning about climate change before graduation through required core courses. The finding may help explain why having a bachelor's degree doesn't always lead to increased acceptance of human-caused global warming, according to new research led by Vanderbilt sociologist David Hess. Undergraduate Brandi Collins, who has since graduated, contributed to the paper, "Climate Change and Higher Education: Assessing factors that affect curriculum requirements" available online now and appearing in print in the January 1, 2018, issues of the *Journal of Cleaner Production*.

Although a college degree can lead to increased acceptance of climate change, recent work in environmental sociology has found that the increases are unevenly distributed across ideological lines. Hess and Collins theorized that one culprit may simply be self-selection: because colleges offer hundreds of courses every semester, only the students already predisposed to accepting climate change choose to learn enough about it to change their minds.

To measure how likely students are to receive education on climate change through required courses, the researchers examined the menu of courses that comprise the core curriculum at 90 top-ranked colleges and universities.

For each school, they then calculated the likelihood that at least one of the required courses would cover climate change from a scientific, social, or cultural angle. Perhaps unsurprisingly, students were by far the most likely to learn about climate science as part of their natural science core than any other area, but even among those course options the likelihood was low—around 5 percent. Added together, the average likelihood was just 17 percent.

"The result is that there's a very small chance—about one in five—that a college student will learn about climate change through required core courses," Hess said.

Hess and Collins found trends between types of schools as well. Research universities were more likely to make climate change a part of their core curricula than liberal arts colleges, and public research universities in states with Democrat-controlled statehouses were more likely than those in split or Republican-led ones.

"I don't think that means there's direct supervision by the state legislature, but there may be a percolation of priorities," he said. "It could also reflect general cultural differences between red and blue states as to what areas of hiring and teaching are prioritized."

Finally, the researchers sought to identify best practices for exposing as many students as possible to climate science. Columbia University does this very well, they noted, by incorporating a climate change segment into a required course. Even schools that do not have a single, required course can increase the odds by adding more climate-related courses to the core curriculum. "But the second option won't overcome the problem of self-selection," Hess said. "As educators we need to be thinking more about how much we prioritize this important topic."

More information: David J. Hess et al. Climate change and higher

education: Assessing factors that affect curriculum requirements, *Journal of Cleaner Production* (2017). DOI: 10.1016/j.jclepro.2017.09.215