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MU Study Finds Connection Between Evolution, Classroom Learning

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Over thousands of years, humans have evolved to naturally understand things like facial expressions and social interactions. But a University of Missouri researcher has found there is an ever-widening gap between what humans can naturally learn and what they need to learn to be successful adults in today's modern society. Schools have traditionally helped bridge the gap between evolution and new knowledge, but in the U.S. more may need to be done.

"Schools need to push children to learn things that they do not do naturally, which is more important as our knowledge of the world continues to expand," said David Geary, Curators' Professor of Psychological Sciences in the MU College of Arts and Science. "Learning is not always going to be fun and children should not expect it to be. Attempting to engage children by making activities fun, causes those activities to become more similar to what students are already doing naturally and can limit new learning."

Geary found that one reason U.S. students may be behind students in other countries in subjects like science and math is because American schools have moved away from traditional practices where students learn information through repetition. Instead, U.S. schools often use more group and social interactions to teach topics that can be challenging.

"From an evolutionary perspective, what we are designed to do and what culture says we now have to do, is very different," Geary said. "We should not expect what comes naturally to us to be the best way to learn

something new."

Geary found that humans have evolved to naturally learn basic skills, like social interactions, but because of the fast expansion of new academic knowledge, humans are not yet equipped to easily understand things like chemistry, mathematics or physics. Humans prefer to engage in peer relationships because of natural bias that helps them learn about and influence their peer groups. While the need to learn about others now comes naturally, mastering things like linear algebra, does not, because it is a recent cultural innovation.

"Learning mechanisms in humans have evolved to support the transfer of culturally useful knowledge," Geary said. "However, we are now at a point in human history where the abilities needed to function in a high-tech, modern society have surpassed the capacity of those simple learning mechanisms."

The study, "An Evolutionarily Informed Education Science," was recently published as the target article in a special issue on Evolution and Education in the Educational Psychologist journal.

Source: University of Missouri