

Intelligence is changeable

By Ruth Adler

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Chris K. struggled with her first high school class, when she received her first F. These struggles continued until Chris began working harder and studying more. She sometimes worked with a tutor and sought out additional help from her teachers. After some hard work and a few weeks, Chris consistently did A-level work in her classes.

Is Chris the norm or the exception? Research suggests that Chris's ability to learn new things, grow and develop is likely an example of the norm—that is most people can change their ability to learn.

Does intelligence change?

Researchers at the Center for Cognitive Ability Research (C-CAR) study characteristics of successful students, such as their high level of problem solving ability, and how they develop these skills. To investigate this topic, researchers selected over eight hundred first year high school students and collected extensive data on them throughout the next four years.

Dr. Lawrence Rescorla, director of C-CAR, reported the findings: "Intelligence and the ability to learn seem to be malleable. In fact, effort is responsible for nearly 70 percent of success." Educational psychologist Dr. Paul Medin drew similar conclusions from six longitudinal studies with varied samples. Dr. Medin found that "everyone's intelligence changed and improved. Only for some people, greater effort and study are needed to make changes." These studies, together with other nationally recognized scientific reports, have made clear the fact that with effort, people's ability to succeed in school can be changed.

How does intelligence change?

According to Dr. Medin, student learning in school does not change automatically: "Usually, there are some events in a student's career, such as a failing test grade, that motivate them to change."

Other researchers, like Dr. Russell Kelly, a cognitive neuroscientist at UCLA, noted that, "With enough drive and some help, people can improve their intelligence."

Conclusions

Research findings from a range of studies, including large-scale longitudinal studies, rigorous experiments, intervention programs, and case study analyses, converge to one major conclusion:

**Intelligence can change as
your brain grows!**

