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President's Message

Students Can Learn to Grow Their Intelligence

By Rhonda J. Armistead, NCSP

I'm an avid listener of National Public Radio (NPR) and earlier this year I heard a story that piqued my interest and started me thinking about our role as school psychologists in regard to how we explain the importance of IQ tests and what each of us believes about these test measures—both for students and ourselves. Let me tell you about the study covered by NPR.

Carol Dweck of Stanford University and her colleague from Columbia University, Lisa Blackwell, investigated whether a child's belief about intelligence had anything to do with academic success. Dweck has long studied the role of implicit theories of intelligence and has empirically identified that there are two: the "entity" theory and the "incremental" theory. Students who possess the entity theory view their intelligence as unchangeable, fixed, and otherwise set in stone. Those with this "fixed mindset" believe that abilities and talents are largely unalterable. In contrast, students who believe in the incremental theory think their intelligence is a fluid or malleable quality. If you believe that intelligence is subject to growth and change, you have what Dweck also refers to as a "growth mindset."

Dweck and others have studied how these core beliefs can set up different patterns of response to challenge, difficult tasks, and setbacks and as a result have developed a motivational model of achievement. The researchers in the present study tested whether incremental or growth theories lead to positive beliefs about learning and effort which in turn lead to positive strategies, thus resulting in improved grades. In an elaborate experiment using average achieving seventh grade students and measuring their beliefs and achievement over two years, Blackwell, Trzesniewski, and Dweck (2007) found that students who endorsed a strong incremental theory of intelligence at the beginning of seventh grade outperformed in mathematics achievement those who espoused an entity theory, controlling for prior achievement. Students who believed their intelligence was malleable were more likely to embrace learning goals and were more likely to believe that working hard was important and effective in improving math grades.

However, it wasn't this study that caught the attention of the national press. It was a second study reported in the same Child Development issue. The

researchers asked the natural follow-up question: Could students be taught to have a growth mindset and would this positively impact their motivation and ultimately their grades? About 100 seventh graders in a different school who were considered low achieving participated in the second study. After first replicating the validity of the motivational model for this lower achieving second group, the students were randomly assigned to two workshops on study skills. The control group was given a lesson on the structure of memory, while the intervention group was given mini neuroscience lessons on the malleability of brain structures and participated in discussions and activities on how learning makes the brain smarter. When interviewed, Carol Dweck described these students as visualizing new neurons forming new connections every time they studied diligently. Besides learning how to "grow" their intelligence, the intervention group was also exposed to discussions about why fixed mindset labels such as "dumb," "stupid," and "smart" should be avoided. The most significant effects of the study were found with students who endorsed a strong entity theory of intelligence at the beginning of the year. A declining grade trajectory for this group was reversed following the intervention whereas the grades of similar students in the control group continued to decline. One important context for this study is the adolescent experience which often involves increasingly difficult and challenging transitions as well as the crystallization of beliefs about oneself, including beliefs about intelligence.

Carol Dweck's many years of research on self-theories and human motivation have led her to believe that our mindset creates our entire mental world. She asserts in her new book, *Mindset: The New Psychology of Success* (2006), that "our mindset shapes our goals, our attitudes toward work and relationships, and how we raise our kids, ultimately predicting whether or not we will fulfill our potential." School psychologists have long known that intelligence test scores account for only a portion of the variance in achievement results. Individuals start with varying aptitude levels but experiences, opportunities, and personal effort or engagement result in substantial differences in terms of outcomes. Yet, so many of our decisions, actions, and conversations with teachers and kids may not accurately convey the importance of their developing a "growth mindset."

Numerous school psychologists have advocated that we move toward a strength-based approach when evaluating and developing interventions for students. Perhaps the understanding of self-theories of intelligence should be added to the list of risk or protective factors that we should consider. When preparing for this column, I couldn't help but think about one easily ignored phrase in my psychological report template that says, "A student's intelligence is not fixed...." Do I really believe this? It is a question we should all ask ourselves.

References

- Blackwell, L., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and intervention. *Child Development*, 78, 246-263.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House, Inc.

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