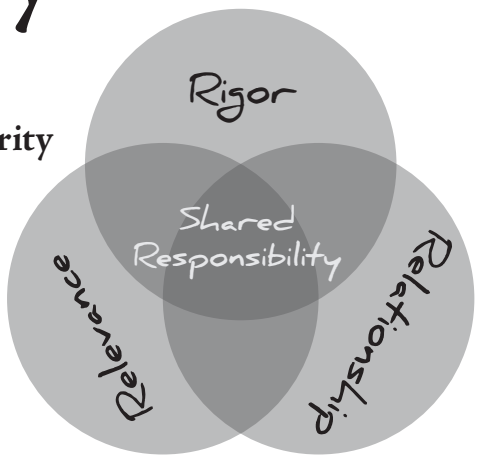
LEARNING & THE BRAIN

Shared **Responsibility**



Shared responsibility lies at the interface of rigor, relevance and strong student-teacher relationships. This fourth R brings integrity to the other three key attributes of engaging learning. Two findings within current research highlight the importance of students and teachers sharing responsibility in learning. First, it is critical that the learner takes an active role in the learning process. The phrase "the person who is doing the work is the person who is learning" best captures this neurologically validated fact. The students become more active as they assume increased responsibility for learning and the teacher's role shifts to that of guide. Second, effective learning depends on the individual's understanding his or her own learning process. Once the ability to reflect on one's own learning is mastered, the teacher and student can then continually shape the learning context based on these insights. This is referred to as "meta-cognition" or "visible learning," which sparks both engagement and content mastery. The nature of learning requires a dynamic partnership where students and teachers engage in a continuous loop of reflection and co-construction. This fourth R becomes the way to optimize rigor, relevance and strong student-teacher relationships.

Learning must be active

Shared responsibility requires a partnership in learning, moving the role of students along a continuum from passive to active participants in their education. When students become active participants in their learning, research has affirmed that their brains are better able to process, retain, and transfer their learning to new situations (National Research Council, 2000; Weinberger 2008; Winer & Schreiner, 2011). "In the brain, the mental manipulation required to construct understanding fuels the neuroplasticity that yields durable, long-term memory " (Willis, 2014).

The act of struggling to solve a problem is directly related to the amount that is learned and its durability (Brown, Roediger & McDaniel, 2014). When students share responsibility in their learning, they are more likely to perform better academically, have a more positive self-concept, sustain better relationships with their peers, have a greater sense of responsibility, and demonstrate higher rates of college graduation (Zelden & Collura, 2010).

Learning is enhanced through meta-cognition, or the ability to reflect on one's own learning within a student-teacher partnership.

Researcher John Hattie (2012) conducted an extensive meta-analysis of key variables affecting learning and concluded that "the remarkable feature of the evidence is that the biggest effects on student learning occur when teachers become

learners of their own teaching, and when students become their own teachers" (Hattie, 2012). Others describe this capacity of being a "learner of learning" as meta-cognition.

When students develop the skills to predict and self-assess their learning on an on-going basis, teachers can be highly effective guides or "activators," continually calibrating the level of challenge and relevance based on their strong relationship to the learner. "It is the feedback to the teacher about what students can and cannot do that is more powerful than feedback to the students, and it necessitates a different way of interacting and respecting students" (Hattie, 2009). Current research highlights the importance of active learning by means of an ongoing student teacher partnership (National Research Council, 2000).

Motivation is increased through learner-directed goal setting, coupled with continuous and timely feedback within a student-teacher partnership.

A positive physiologic response to learning is created when learning includes learner-directed goal setting and continuous student-teacher feedback, in the context of a learning partnership. Dopamine is triggered when individuals receive feedback that they are en route to attaining a goal and when they successfully reach that goal (Willis, 2014). This produces an experience of pleasure, reduced stress, and increased motivation and perseverance. A commitment to partnership in learning builds a positive association with learning through this continuous activation of the dopamine reward system, seeding a life-long desire and capacity for learning.

Student motivation and engagement are enhanced with increased levels of responsibility and control over their learning.

Students are more likely to be motivated and engaged in an activity when they feel they have a voice in how the activity is carried out and how it concludes (Eccles & Wigfield 2002; Hinton et al. 2012). Intrinsic motivation is fostered when students share in the responsibility of co-creating their educational experience. "Fostering student voice—empowering youth to express their opinions and influence their educational experiences so that they feel they have a stake in the outcomes—is one of the most powerful tools schools have to increase learning." This important finding arose from an extensive literature review conducted by Toshalis and Nakkula (2012) to identify ways to increase motivation and engagement.

SOURCES

Brown, P, Roediger, H, and McDaniel, M. (2014). Make it stick: the science of successful learning. The Belknap Press of Harvard University press. Cambridge, MA.

Eccles, J.S., Wingfield, A. (1995) In the mind of the achiever: the structure of adolescents' academic achievement related beliefs and self-perceptions. Personality and Social Psychology Bulletin. 21.

Hattie, J. (2012). Visible learning for teachers: maximizing impact on learning. Routledge Press , New York, NY.

Hattie, J. (2009). Visible learning: a synthesis of over 800 meta-analyses relating to achievement. Routledge Press, New York, NY.

Hinton, C., Fishcer, K.W., Glennon, C.. (March 2012) Mind, Brain & Education. The Students at the Center Series.

National Research Council (2000). How People Learn: Brain, Mind, Experience and School. National Academy Press, Washington D.C.

Toshalis, Eric., Nakkula, Michael J. (2012) Motivation, engagement and student voice. Students at the Center Series.

Weinberger, N.M. (2008). Cortical plasticity in associative learning and memory. In J.H. Byrne, ed. Learning and Memory: a comprehensive reference. Oxford, UK: Elsevier ltd.

Willis, Judy (2014). Newsletter March/April 2014.

Winer, J.A., Schreiner, C.E. (2011). The auditory cortex. Springer. New York, NY.

Zeldin, Shepherd., Collura, Jessica (2010) Being Y-AP Savvy: a primer on creating and sustaining youth-adult partnerships. ACT for Youth Center of Excellence. Cornell University Family Life Development Center, Ithaca New York.