

LOGIC MODEL

Animal Assisted Education

A planned and structured intervention directed and/or delivered by educational and related service professional with specific academic or educational goals. Animal assisted education (AAE) program uses a therapy dog in the mainstream classroom as a universal intervention for all students to maximize student potential (Allen, 2007, p 12). AAE embedded in the high school classroom aims to facilitate a positive classroom emotional climate and student emotional engagement as pre-requisite conditions for learning and academic achievement.

Human-Animal Interaction

HAI positively affect preconditions for learning (Beetz, et al., 2012, p 9). HAI have a "catalyst effect" for prosocial behavior, reduction in physiologic stress response, and enhanced mood and experiences of positive emotion. These effects are characteristics of emotional engagement. HAI increase oxytocin levels in blood that decrease sympathetic nervous system activation and increase parasympathetic nervous system activation.

Classroom Emotional Climate

A positive CEC is correlated with student achievement (Reyes, et al., 2012, p 700). Classrooms with high CEC facilitate positive emotions, interpersonal relationships, and a sense of belonging. CEC is a direct result of careful planning and execution of specific strategies to enhance both the affective and social dimensions of emotional engagement simultaneously (Marzano & Pickering, 2011, p 1).

Emotions

Positive emotions such as joy, happy, relaxed, pride, and gratitude represent positive psychological states that serve as an internal signal for approach and continue behaviors. such behaviors are positively correlated with students academic self-efficacy and overall achievement (Fredrickson, 2001,2; Valiente, Swanson, & Eisenberg, 2012, 3; Pekrun & Linnenbrink-Garcia, 2012, 259; Skinner, et al., 2009, 227; Marzano & Pickering, 2011, 3; Li & Lerner, 2013, 22). Negative emotions such as anxiety, fear, sadness, boredom and shame have the opposite effect (Skinner et al., 2009, p 227).

Broaden-and-Build Theory

Experiences of positive emotions function as internal signals to approach or continue (Fredrickson, 2001, 219). Positive emotions expand students "momentary thought-action repertoires", which in turn build social, psychological, and cognitive resources. These resources outlive the emotions from which they were acquired and may be used for future learning and well-being. Positive emotions also function as antidotes to negative emotions.

Emotional Engagement

EE refers to students affective and social reactions in the classroom and toward school (Ulmanen, et al., 2016, p 3, 17; Li & Lerner, 2013, p 21). EE is identified as "a point of entry" and a "substantial prerequisite" for behavioral and cognitive engagement (Li & Lerner, 2013, p 23; Ulmanen et al., 2016, p 2). EE is has two sub-types: (1) affective (emotions and attitudes), and (2) social (social cohesion and sense of belonging). Positive emotions fuel positive attitudes, and highly influence social cohesion and sense of belonging.

Progress Monitoring

Formative assessment of AAE interventions influencing student emotional engagement.

Reflective research designs provide valuable insight on perceptions of emotional engagement (Ulmanen et al., 2012, p 17).

Expand upon the body of knowledge of AAE and EE. Illuminate current service delivery and intended outcomes. Inform delivery and progress monitoring of interventions.

EE decreases as students leave elementary and move through middle and high school. Student engagement (emotional, behavioral, cognitive) is the best predictor of academic achievement (Fredricks et al., 2004; Marzano & Pickering, 2011; Reyes et al., 2012; National Research Council and the Institute of Measurement, 2004). "

Operationally defining and "Micro-theroizing" EE leads to a clear articulation of the construct, better design and assessment of effective interventions, and moves theoretical understanding of EE forward (Eccles & Wang, 2012, p 141).

Every Student Succeeds Act (2015)

ESSA is the nations general education law. Calls for broader definitions student success. It also encourages schools to identify instructional practices and monitor student success. ESSA replaces the one-size-fits-all approach of its predecessor, the No Child Left Behind Act (NCLB), and provides greater flexibility for states and school districts to devise a holistic approach to student learning. This broader view is intended to include measures of student growth and school and classroom climate (ed.gov). Thus ESSA places students emotional engagement and classroom emotional climate at the front of educational policy and research.

Healthy People 2020 Adolescent Health (AH)

HP 2020 identifies three critical research findings linking health outcomes and academic success:

- "Academic success and achievement are strong predictors of overall adult health outcomes. Proficient academic skills are associated with lower rates of risky behaviors and higher rates of healthy behaviors".
- "High school graduation leads to lower rates of health problems and risk for incarceration, as well as enhanced financial stability during adulthood".
- "The school (classroom) social environment affects students' attendance, academic achievement, and behavior. A safe and healthy school (classroom) environment promotes student engagement and protects against risky behaviors and dropping out". (HP2020.2011)

AH 5. Increase educational achievement of adolescents and young adults