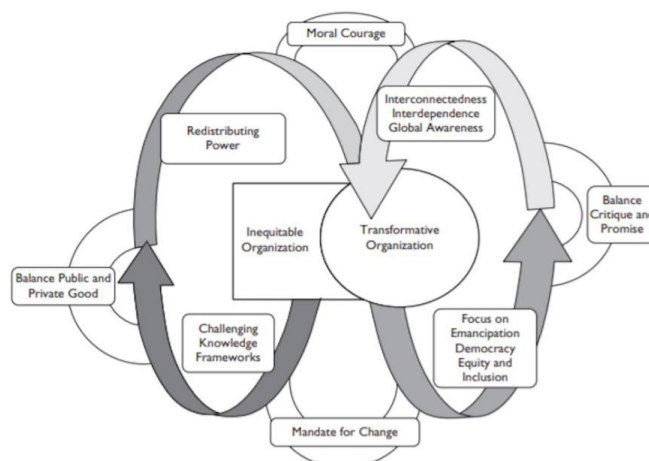# Transformative Leadership in STEM Education

STEM-based pedagogies provide opportunities for students while working with their families and communities to engage in critical thinking and problem-solving that improves the world (Samaras, Hjalmarson, Bland, Nelson & Christopher, 2019). Twenty-first-century jobs are aligned with STEM learning, but too often minoritized students are excluded from STEM education and cannot benefit from career pathways that have economic implications (Bullock, 2017). It is imperative that school districts grant all students access to STEM content with well-equipped educators and leaders (Merrill & Daugherty, 2010). Leaders should galvanize robust STEM programming created to transform teaching and learning. Students need leaders and advocates, change agents (Cooper, 2009) dedicated to the educational success of all students.

"Transformative leaders are committed to systematic change, and they assume heightened responsibilities for the dual goals of enhancing equity and improving student outcomes" (Bragg et al., 2014). In order to realize equitable change in STEM, we need to rethink current practice and transform our classroom communities.

The 8 Tenets of Transformative Leadership can help facilitate access to STEM education for all students:

- Deep and equitable change
- Deconstruction and reconstruction of knowledge frameworks that perpetuate inequity and injustice
- An address of the inequitable distribution of power
- An emphasis on both private and public (individual and collective) good
- A focus on emancipation, democracy, equity and justice
- An emphasis on interdependence, interconnectedness and global awareness
- A balance of critique with promise
- A call to exhibit moral courage

(Shields, 2014)