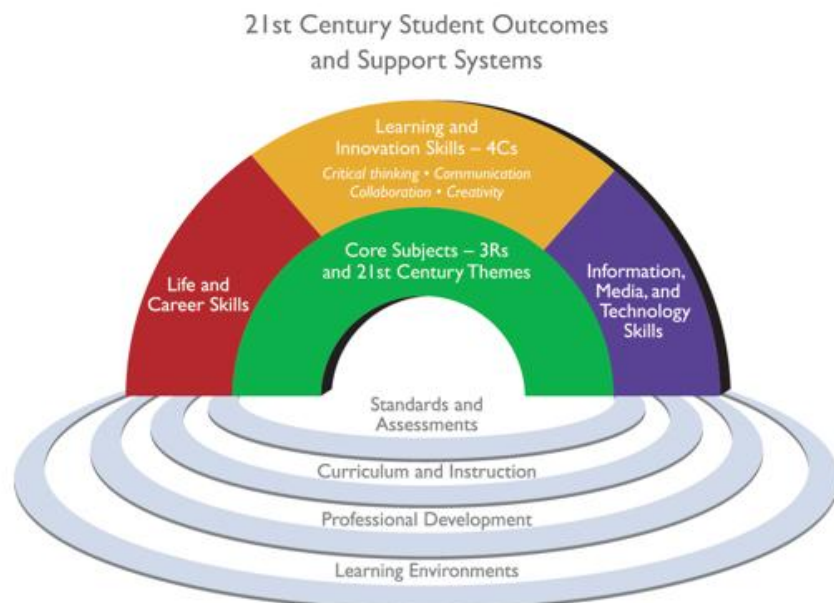


Looking Ahead: 21st Century Skills



"I think the arts liberate a person's mode of thinking and I think it's very healthful and conducive to perhaps increasing creativity. Because the arts are fundamentally an exploration. Science and technology are an exploration. And it's very useful for a student to have an experience in which one can explore in an unfettered way. "

- Nobel Laureate Jerome T. Friedman of the MIT Physics department

Source: 21stcenturyskills.com

- ***The Arts and the Creative Workforce***

In a global economy that is driven by knowledge and ideas, arts education belongs at the forefront.

- Creative industries are growing rapidly in number and playing a powerful economic and social role.
- The best paying jobs require workers with creativity and higher order thinking & communication skills.
- American businesses follow the creative workforce when seeking locations.
- Nations that have been focusing on increasing their ranks of scientists and engineers are now seeking ways for schools to foster greater innovation and creativity.

A 2001 survey of 6,000 executives, conducted by researchers from McKinsey & Company, revealed that of all the challenges businesses will face in the future, one of their greatest concerns is finding employees able to "make good decisions in times of uncertainty ... adapt to new opportunities and respond creatively to change."

- ***The Arts and Cognitive Skills***

A growing body of evidence suggests that arts learning and arts integration help develop key cognitive skills needed for academic success, as well as promote the social and emotional strengths that lead to academic achievement and positive behaviors and relationships. Learning in and through the arts:

- Provides another point of entry to ideas and concepts
- Helps students to see other perspectives and make connections
- Requires complex analysis and judgment
- Contributes to self-awareness and self-esteem
- Provides opportunities for collaboration and builds community within the school

Thomas Friedman in an address in Washington, D.C. (March 2010) in “Educational Urgency in a Flat World insists there are two types of countries: high imagination and low imagination. In order to develop a country with high imagination more efforts should be made to nurture right brain skills, which are creative and imaginative. In order to be successful in this endeavor, we must expose students to liberal arts.”

Research shows that...

- An interest in a performing art leads to a high state of motivation that produces the sustained attention necessary to improve performance and the training of attention that leads to improvement in other domains of cognition.
- Learning to dance by effective observation is closely related to learning by physical practice, both in the level of achievement and also the neural substrates that support the organization of complex actions. Effective observational learning may transfer to other cognitive skills.
- Training in acting appears to lead to memory improvement through the learning of general skills for manipulating semantic information.
- Learning to make music strengthens spatial-reasoning abilities. Research shows that a strong causal link exists between learning how to play music and the development of spatial-temporal reasoning skills, which can play an important role in mathematics and science education.

Source: National Assembly of State Arts Agencies' Research-Based Communication Toolkit