

A Beehive Model of Strengths and Gifts

Worker Bees: Experts
Intelligence, Achievement motivation, multiple talents
Lawyers, Doctors, Executives, Engineers
Those who sustain the culture

Honey Bees: Helpers
Intelligence, Social motivation, multiple talents
Counselors, healers, and teachers
Those who sweeten the culture

Drones: Innovators
Intelligence, Creativity, Specific talents
Artists, Inventors, Musicians, Entrepreneurs
Writers
Those who fertilize the culture

Killer Bees:
Intelligence, Creativity, anti-social motivation
Hackers, terrorists, con artists, white collar criminals
Those who threaten the culture with aggression and self-centered behaviors.

The Queens: Visionaries
Intelligence, Creativity, Multiple talents, integrative consciousness
Mystics, humanitarians, philosophers, religious
Those who transcend and transform the culture



Research on Experts: Worker Bees

- Most research on giftedness has been on worker bees– Termites, National Merit Scholars, Valedictorians, honors students (Terman; Holland; Arnold)
- Most of the academically talented students with whom we work will be in this category.
- These students have multiple strengths, abilities, and interests, and difficulty focusing on one major or goal... High flat interest profiles.
- These future professionals already have high achievement motivation unless overwhelmed by multi tasking
- Although usually aspiring to medicine, law, engineering, and communications, they should also be encouraged in the humanities and in the pursuit of academic lives. (Future Faculty!)
- Developing a sense of purpose and meaning is particularly difficult for these students, who may be driven by extrinsic motivation, and prone to perfectionism.

Neuroscience of Intelligence

- The revolution of research in neurogenesis has changed the idea of intelligence as a fixed trait to a set of capacities that shaped throughout life as neurons are born and dendritic connections are made. (see E. Gould)
- Intelligence is the ability to catch on, to make sense of things, and to know what to do about it (see Carroll)
- Rich, complex experiences; access to intellectual resources; good nutrition; and low stress builds neuronal connections

Research on Helpers – Honey Bees

- Only recently has attention turned to emotional and social intelligence as a result of neuroscience findings related to rational and intuitive decision making (See Klein, Lieberman, Goleman).
- These are not separate from general intelligence, but overlapping general intelligence.
- While general intelligence is predictive of accomplishment in individual pursuits, emotional and social intelligence is predictive of accomplishment in collaborative, helpful, and leadership tasks
- While general intelligence is predictive of accomplishment in clearly defined problems, social intelligence is more effective in solving complex, open ended problems
- Although female students are more likely than males to prefer majors and careers related to social intelligence, male college students who show strong empathy, intuition, nurturing, and managing skills and Social interests should be encouraged in education, psychology, management, community service, and social work.

Research on Innovators... Drones

- The rest of the hive tends not to value the characteristics of innovators until they produce something useful or beautiful... they are seen as slackers, drones, or nerds.
- Much of the research on creative people has focused on a unitary construct of general creative cognition, characterized by fluency, flexibility, originality and elaboration of ideas. See Torrance, Guilford, Sternberg.
- Creativity and intelligence are overlapping constructs; however, only high intelligence plus creativity predicts original accomplishment. Moderate intelligence plus creativity yields a pleasant, everyday creativity in adults.
- The most common interest profile for a person who is generally creative is Artistic, followed by Investigative, and then Social. (CLEOS laboratory)
- Nevertheless, eminent, highly creative people tend to have personalities, and perhaps cognitive processes, that differ by domain, even within interests, e.g. musicians differ greatly from spacial-visual artists in cognition, personality, and interests.
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Neuroscience of Creativity

- Neuroscience and neurochemistry reveal differences in brains, most notably in the role of dopamine.
- Creative people experience gamma bursts of electrical activity (very high arousal) when finding a solution to a difficult insight problem, and dopamine cascades while in flow states
- Creative people are ten times more likely to be diagnosed with bipolar spectrum disorders than noncreatives.
- It may be that the disinhibited dopamine systems lead to powerful rushes of grandiosity, insightfulness, excitement, and intensity in the first phases of creativity, and following this depletion of neurotransmitters, depression, criticality, perfectionism and intense evaluation in the second phase of creative production
- The autonomous, open, nonconforming lifestyles that emerge from specific talents, unusual interests, and intense, changeable moods often marginalize creative students in the classroom and in college
- Creative students need the opportunity to specialize early, work with a mentor, and to have help with mood management and attention management.

Research on Visionaries: Hive Queens

- Most of the research on visionaries has been in the area of moral development, anthropology, and historiometric studies
- Visionaries seem to arise from all social strata; indigenous cultures privilege this capacity, and dominant cultures marginalize it.
- Visionaries add to intelligence, social intelligence, and creativity the capacity to transcend rational states, to manage physiological arousal, manage brain electrical states, and toggle freely between hemispheres.
- When Social in interests, often wish to pursue community, political, or religious leadership
- When Investigative in interests, often wish to pursue physics, ecological sciences, mathematics, philosophy, or complex, holistic inventions (Google, Integral psychology, Gaia theory)
- When Artistic in interests, often wish to pursue music, art, or performance as efforts to create social change, intellectual or aesthetic revolution
- Students with this capacity are characterized by extreme openness to experience, intense absorption, multidisciplinary interests, and strong commitment to an idea.
- When working outside of interest area, may appear to be have ADD
- They need interdisciplinary majors, courageous mentors, and early engagement with organizations and institutions related to their concerns.

Killer Bees

- Being intelligent, socially intelligent, creative, and visionary doesn't make you good, or virtuous, or kind.
- People who combine intelligence, creativity with strong Enterprising interests, low Affiliation, high Aggression and high Dominance can become very successful, wealthy, influential people without conscience or collective values.
- Being intelligent, creative, and Enterprising doesn't make you a bad person; these people can become our most innovative and philanthropic entrepreneurs, if motivated toward the common good.
- Students with intelligence, creativity, and Enterprising interests need ethical training and engagement with rewarding service learning as well as training in business, politics, and communication.

Final Thoughts:

- Every classroom, college, and faculty is a hive.
- Know your bees.
- There are no satisfactory psychometric fixes for social injustice, stereotype threat, culture, and gender bias
- It's hard to get out of your own area of the hive and understand the needs of students and faculty who are different from you.
- Respecting the differences among students and understanding the nature of various forms of gifts and strengths can lead to better teaching and learning.