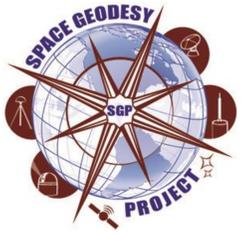


Application of Adult Stage Development Theory to the Management of the NASA SLR Operations Team

Rivers Lamb | NASA SLR Network Operations Manager | rivers.lamb@nasa.gov | +1 301 286 1128



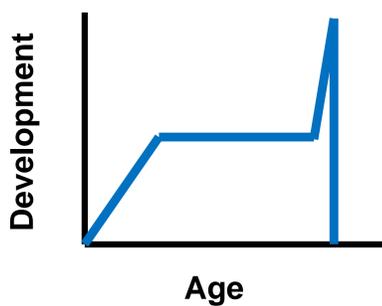
Premise: Technological improvements are, by themselves, not sufficient for technological systems to reach their full potential. We must consider the ways in which human beings can also constrain, or enhance, systems' potential through our own developmental capacities.

The drastic changes currently happening throughout all segments of global society are outpacing the human capacity to respond to that change; the world has become and is becoming more **Volatile, Uncertain, Complex, and Ambiguous**.

A human's capacity to respond to this changing world is addressed in human development theory, which requires that we first **distinguish between learning and development** in human beings.

Learning adds more skills and knowledge through study or training, like adding new software to a computer. **Development grows more capacity** through letting go of old mental models, like installing a new operating system.

Society's Perception



Adapted from *Immunity to Change* (R. Kegan and L. Lahey)

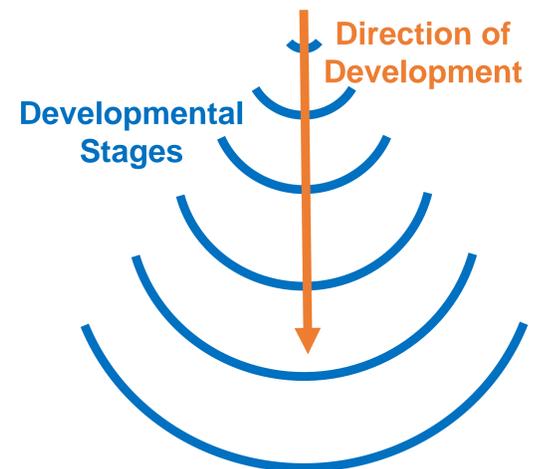
Human development is largely misunderstood as a process that only happens in childhood and occasionally in old age for a few wise elders.

Adults can move through stages of development, increasing their capacity to respond to situations, like the way that a teenager has more capacity than a toddler.

In the model, bowls of increasing size are used to represent these stages of increasing capacity. Later stages are inclusive of (and can understand) earlier stages, but not vice versa.

"Increasing capacity" is indicated by trends such as more openness to different ideas, more ability to think long-term, more ability to handle complexity, etc.

Model of Adult Stage Development



Adapted from New Ventures West Professional Coaching Course curriculum (J. Flaherty)

These developmental principles can also be applied to organizations, and Integral Theory can be used to assess the stage of development.



Five Stages of Development for Organizations

Source: *Reinventing Organizations* (F. Laloux)

Level	Description
Red	Constant exercise of power by chief to keep the troops in line. Fear is the glue of the organization. Highly reactive, short term focus. Thrives in chaotic environment.
Amber	Highly formal roles within a hierarchical pyramid. Top down command and control (what and how). Stability valued above all through rigorous process. Future is repetition of the past.
Orange	Goal is to beat the competition, achieve profit and growth. Innovation is the key to staying ahead. Management by objectives (command and control on what; freedom over how).
Green	Within the classic pyramid structure, focus on culture and empowerment to achieve extraordinary employee motivation. Stakeholders replace shareholders as primary purpose.
Teal	No one is the boss of anyone else. Self-management replaces hierarchical pyramid, as hierarchy is not powerful enough to face complexity. Organizations are seen as living entities, oriented toward realizing their potential.

Four Quadrants for Assessment

Individual/Interior <ul style="list-style-type: none"> - Mindsets, beliefs - Emotions - Individual values 	Individual/Exterior <ul style="list-style-type: none"> - Behavior - Roles and titles - Individual habits
Collective/Interior <ul style="list-style-type: none"> - Culture - Organization values - Purpose, mission, vision - Relationships 	Collective/Exterior <ul style="list-style-type: none"> - Systems - Organization structure - Processes - Tools

Adapted from Integral Theory (K. Wilber)

Application: Since becoming NASA SLR Ops Manager in **October 2017**, I have used these principles to improve the SLR Ops Team.

I was told that the team was desperate to improve the way in which it worked together. I spent lots of time talking to team members, getting perspectives while treating all opinions as equal and valid. This approach is consistent with the **Green** level of development above.

What emerged was that the team was working in a toxic environment, due to the destructive relationships between Government and Contractor and Subcontractor. In **March 2018**, I started designing weekly conversations to help the team work through these challenges.

Team members struggled to respond to self-reflective questions like "how am I contributing to this toxic environment?" This kind of reflective capacity would also be expected to emerge at **Green**, and I took the struggle as a sign that my approach was too ambitious.

Informally, I heard that the team was still largely driven by fear, which, along with other comments, pointed to **Red** level issues. Development theory suggests that unresolved issues from shallower levels constrain the ability to operate at deeper levels of capacity.

Theory also says that stages cannot be skipped, so I used guidance from the next stage (**Amber**) to determine how to proceed. In **June 2018**, I made it clear to the Contractor Task Lead that he now had the authority and responsibility to determine the makeup of the team.

Over time, this process led to a few personnel changes while drastically improving team communication and morale. Now, over a year later, it seems that this more effective team is no longer constrained by the pervasive fear that shows up in **Red** level organizations.