

Nomination for the ICF Prism Award in November, 2007

Active Management of NASA Team Performance

In 2003, Dr. Ed Hoffman's NASA Academy for Program / Project & Engineering Leadership ("APPEL") and the company "4-D Systems" began working to enhance the performance of NASA teams, particularly project teams. The APPEL was formed after the *Challenger* mishap to strengthen NASA program / project management. APPEL resides in the NASA Office of the Chief Engineer.

Overview:

- APPEL's "4-D" program synergistically employs assessments, workshops, coaching and reassessments to enhance team performance:
- This is a "team-centric" approach. The teams that APPEL includes in this program are typically NASA's most important flight-project teams. These projects span five or more years with budgets ranging from \$500M to \$3B+.
- Research shows that 80% of team performance is a result of team environment / context. Therefore, our workshops and coaching processes enhance team context. The failure review boards for the *Challenger*, *Hubble*, and *Columbia* mishaps all named social factors as root causes. Many of the best technical minds in the world were put in "bad contexts."
- A "coordinate system" methodology, borrowed from physics, identifies four "Dimensions" of high performance teams and leaders. In simple terms, these four are: Caring about other people; appropriately including / relating with others;

creating whatever you want to create; and directing / organizing.

- We chose two behaviors in each "Dimension" that "fill" the Dimension and are together sufficient to sustain high performance contexts. The eight behaviors are:
 - "Expressing Appreciation" & "Appropriately Including Others" to meet our deep needs to feel valued and to belong. Teams cannot work effectively until these needs are met.
 - "Addressing Shared Interests" to reduce cross-organizational conflict, a major source of team breakdown.
 - "Keeping All Your Agreements" to sustain integrity and trustworthiness.
 - "Reality-based Hope" to provide a creativity-launching platform.
 - "100% Commitment" to alter perception and reveal solutions.
 - "Resisting Blaming & Complaining" to support productive action.
 - "Clarifying Roles, Accountability and Authority" to create efficient team contexts.
- These eight behaviors are measured in assessments, trained in workshops (including their underlying mindsets), and reinforced in coaching.
- The overarching purpose of these processes is managing team performance by managing team environment / context.

Assessments:

- APPEL's 4-D assessments measure behaviors. Behaviors are excellent markers for context as context drives behavior

and vice-versa. Assessments require an average of 10 to 15 minutes to complete.

- Teams enter the development process with a Team Assessment ("TA"). Team "behavioral norms" are assessed against defined standards to mitigate "normalization of deviance." "Team efficiency" is calculated, and then benchmarked against the currently 450+ "peer" teams in our TA database.
- Teams reassess every four to six months to measure team condition and trend progress.
- All workshop participants conduct an Individual Assessment ("IA") pre-workshop. IAs are essentially similar to TAs except they inquire about a specific individual's behaviors. Participants use their IA reports to identify high-leverage development opportunities during the workshop and in coaching after. There are 1900+ "peers" in our IA database.

Workshops:

- Teams continue development with a 3-day workshop.
- The first workshop day is spent on team diagnostics including these inquiries:
 - Plotting the distribution of the team members' innate personalities to see if the team is suited to the work they must perform.
 - Diagramming the team's culture and comparing it with important customers and teammate organizations.
 - Investigating the project's overarching mindset and determining how coherent the understanding is across the stakeholder community.
 - If project teams get these wrong, they are likely to fail no matter what else they do.

- The next 1.5 days are spent mastering the eight behaviors and supporting attitudes / mindsets.
- The final half day is spent processing the team's presenting dilemmas with the "Context Shifting Worksheet (CSW)." As Einstein said, "You cannot solve a problem with the thinking that created it."
- Post-workshop assessments show an average team performance enhancement of +30 percentile points.

Coaching:

- Coaching follows the workshops to:
 - Enhance / sustain workshop learning eliminating "post-workshop decay;"
 - Continue enhancing team members context shaping abilities; and
 - Context-shifting individual's challenges with the CSW.
- Our ICF Certified coaching cadre includes: Skip Borst (MCC), Kay Cannon (MCC), Beth Hand (PCC), Christine Martin (MCC), Alexandra Ross (MCC), Melinda Sinclair (PCC) and Barbara Walton (MCC).
- APPEL / 4-D coaches track development data and session highlights in an Excel-based coaching log which is provided to participants following each session.
- Reassessments measure team member's behavioral changes every four to six months. On average, people's performance improves +1.6 percentile points per coaching session. And, the evidence suggests that individuals continue to improve even over multi-year coaching periods.
- We analyze each coach's client's IA progress to ascertain coaching effectiveness including benchmarking coaches against each other. Coaches unable to adequately improve client's behaviors are released.

- Our coaching cadre works as a team sharing "lessons-learned" and process improvement with each other during weekly telecons. Less-effective coaches learn from the more-effective ones moving everyone's performance upward.
- Clients report amazing results and the demand is constantly growing.
- None of this would have been possible without the ICF's credentialing, and ethics policies which we impose on all our coaches.

Voluntary Participation (since 2003):

- Participation in the program is voluntary. There is no pressure from management for teams to participate.
- NASA team members had 2300+ IAs and 450+ TAs including ~27,000 assessor "events" - meaning the number of times a person has completed an assessment.
- Our coaching cadre provided and documented 5000+ coaching sessions to NASA team members.
- These are busy people doing important work. They are flying the Space Shuttle, the Hubble telescope and the Space Station. They are taking America back to the moon. Their satellites are probing other planets. They are building the successor telescope to Hubble. They would not volunteer their precious time for our workshops and coaching sessions unless they realized profound value.

Team-level Impact:

- The APPEL's 4-D integrated workshop-coaching-assessment process has:

- Moved 17 teams from the Red (lowest) quintile into the yellow (middle) quintile greatly reducing the probability of a future space mishap;
 - Moved 35 Orange-Yellow (next-to-lowest and middle) quintile teams into the Green (next to top) quintile; and
 - Sustained the performance of 33 Green-Blue (next-to-top and top) quintile teams, often in environments of increasing stress.
 - We believe that these team performance enhancements reduce / eliminate future *Challenger*, *Hubble* or *Columbia* mishaps, while increasing team performance across America's civil space program. How important is this?
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This Nomination for the ICF's Prism Award is submitted on September 2, 2007 by Skip (George T.) Borst (MCC), who has ICF member number 1000108 and is a Past Secretary/Treasurer of the ICF.

Skip Borst has been intimately involved (on the side of 4-D Systems) with the creation, growth and operation of the program described in this nomination and affirms the accuracy of the entire text of the nomination.

This nomination was emailed to icfpr@coachfederation.org with "International Prism Award" in the subject line. It was sent at approximately 3 PM September 5, 2007, which is in advance of the deadline of September 7, 2007.

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