

# ***Systematic Approach to the Development, Evolution, and Effectiveness of Integrated Product Development Teams (IPDTs)***

**Margie Jeffs and Douglas Hamelin**  
Idaho National Laboratory

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# What is an IPDT?

- **INCOSE SE Handbook, v3.2.1 (p. 186-95)**
  - A *multidisciplinary group of people* who are collectively responsible for delivering a defined product or process.
  - A *process-oriented, integrated set of cross-functional teams* (i.e., an overall team comprised of many smaller teams) given the appropriate resources and charged with the responsibility and authority to define, develop, produce, and support a product or process (and/or service).
- **In Plain English:**
  - A group of *individuals working together* to solve a problem and deliver a product or service.



## Premise

- IPDTs are a key component of any SE application.
- Team members are usually chosen because:
  - Have expertise in a *technical discipline*
  - Are *stakeholders* in the outcome or product
  - Hold a *key “position”* in the organization
  - Are *available*.
- IPDT effectiveness can be significantly increased by
  - Recognizing individual *personality types and skill sets*
  - Considering the *behavioral and inter-relational competence* of individual members
  - Monitoring and guiding *team development*

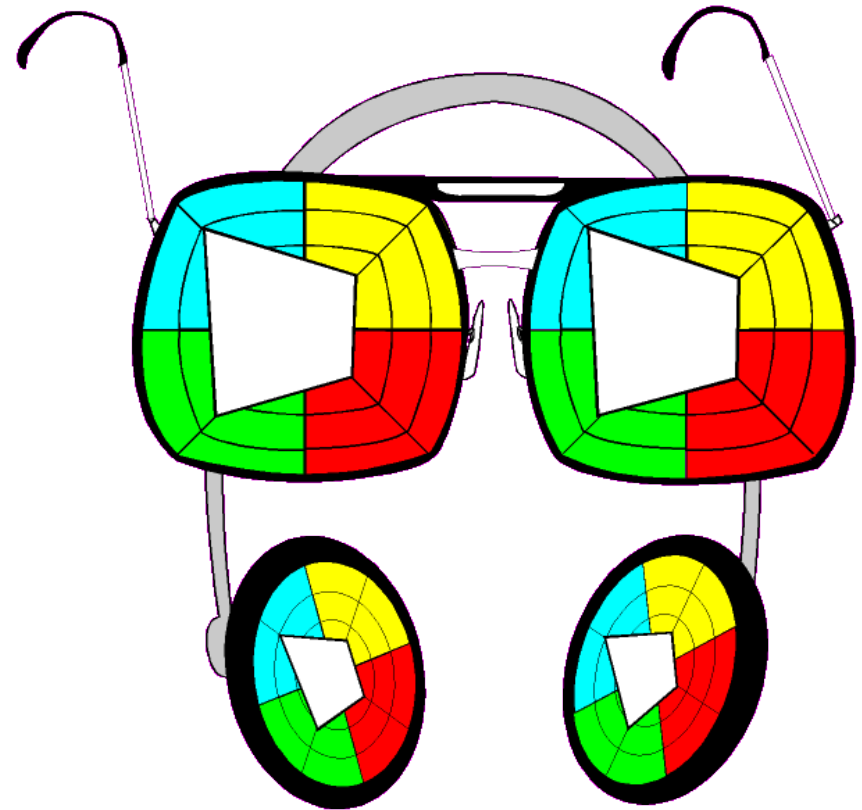
# ***Understanding Team Dynamics***

- **The “unseen forces that operate in a team”**
  - Personality Types and Thinking Styles
  - Team Roles and Responsibilities
  - Organizational culture
  - Working Environment
- **“Thinking Style” Tools and Methodologies**
  - Herrmann Brain Dominance Instrument
  - Belbin Team Roles Theory
  - Tuckman Stages of Team Development
  - Countless others

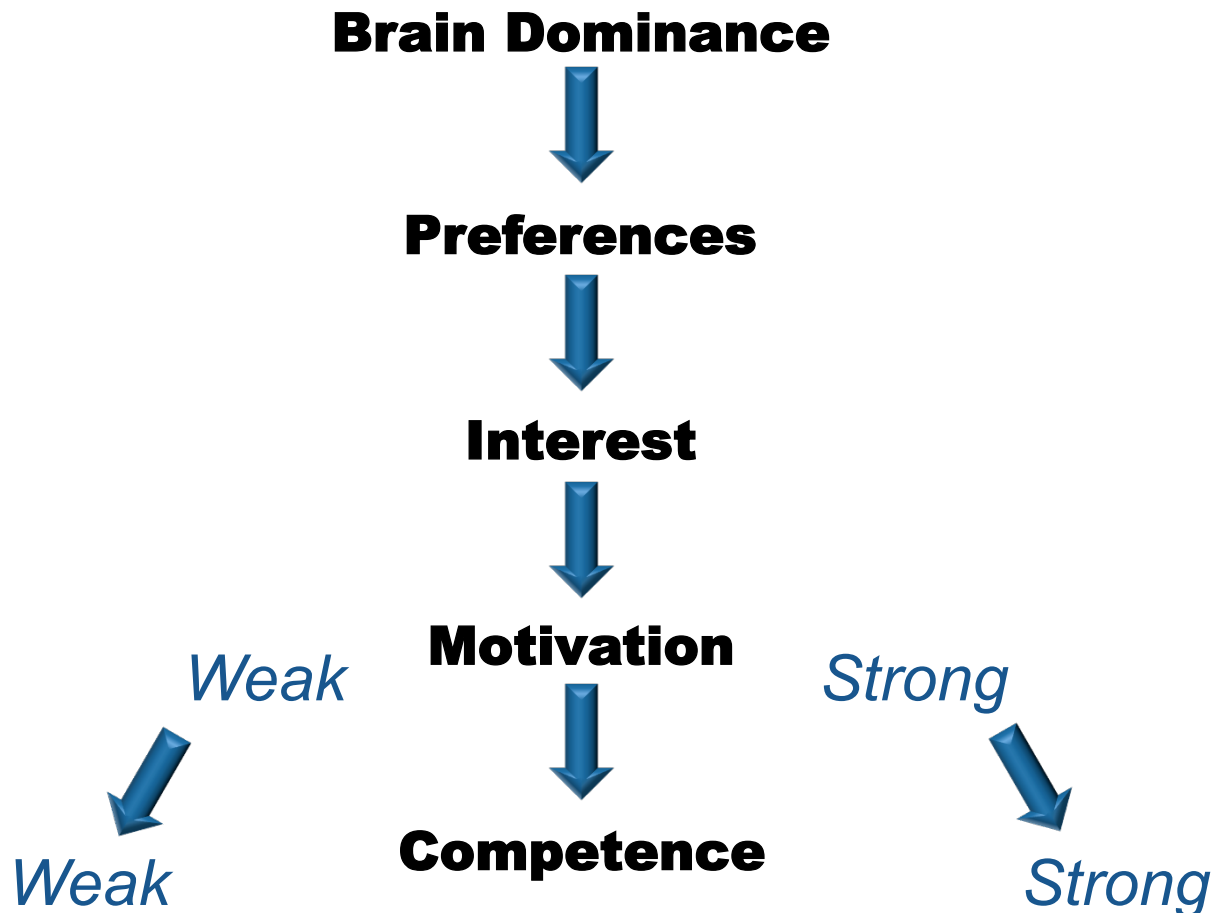


## ***Brain Dominance Filters***

- Our **subconscious** brain preferences determine how we interpret the world
- They act as **filters** for what we see and hear



# ***The Role of “Brain Dominance”***





# Herrmann Brain Dominance Instrument Profile

- A** – Logical, Rational, Mathematical, Technical, Theoretical
- B** – Structured, Disciplined, Thrives on order and predictability, Methodical
- C** – Social, Emotional, All about relationships Compassionate, Expressive
- D** – Creative, Adventurous, Risk taker, Entrepreneurial, Visual, Conceptual

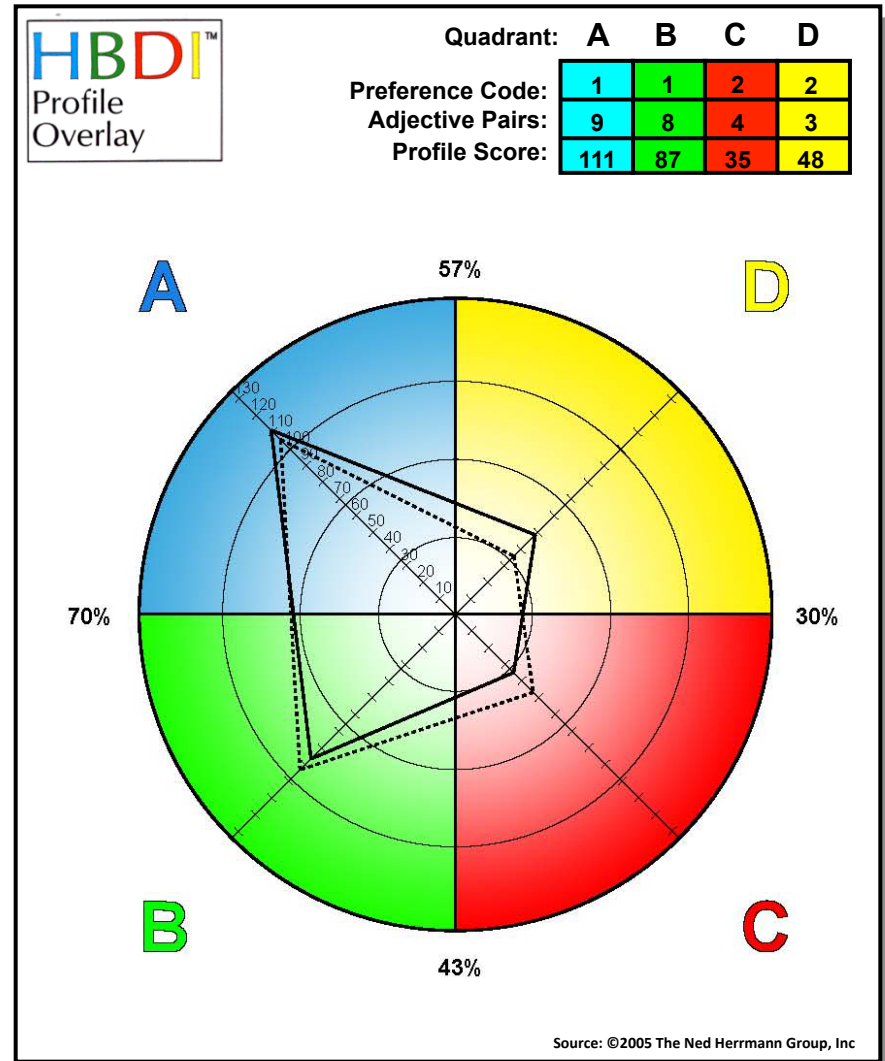
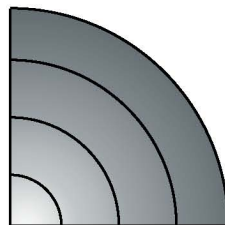
Strong Preference



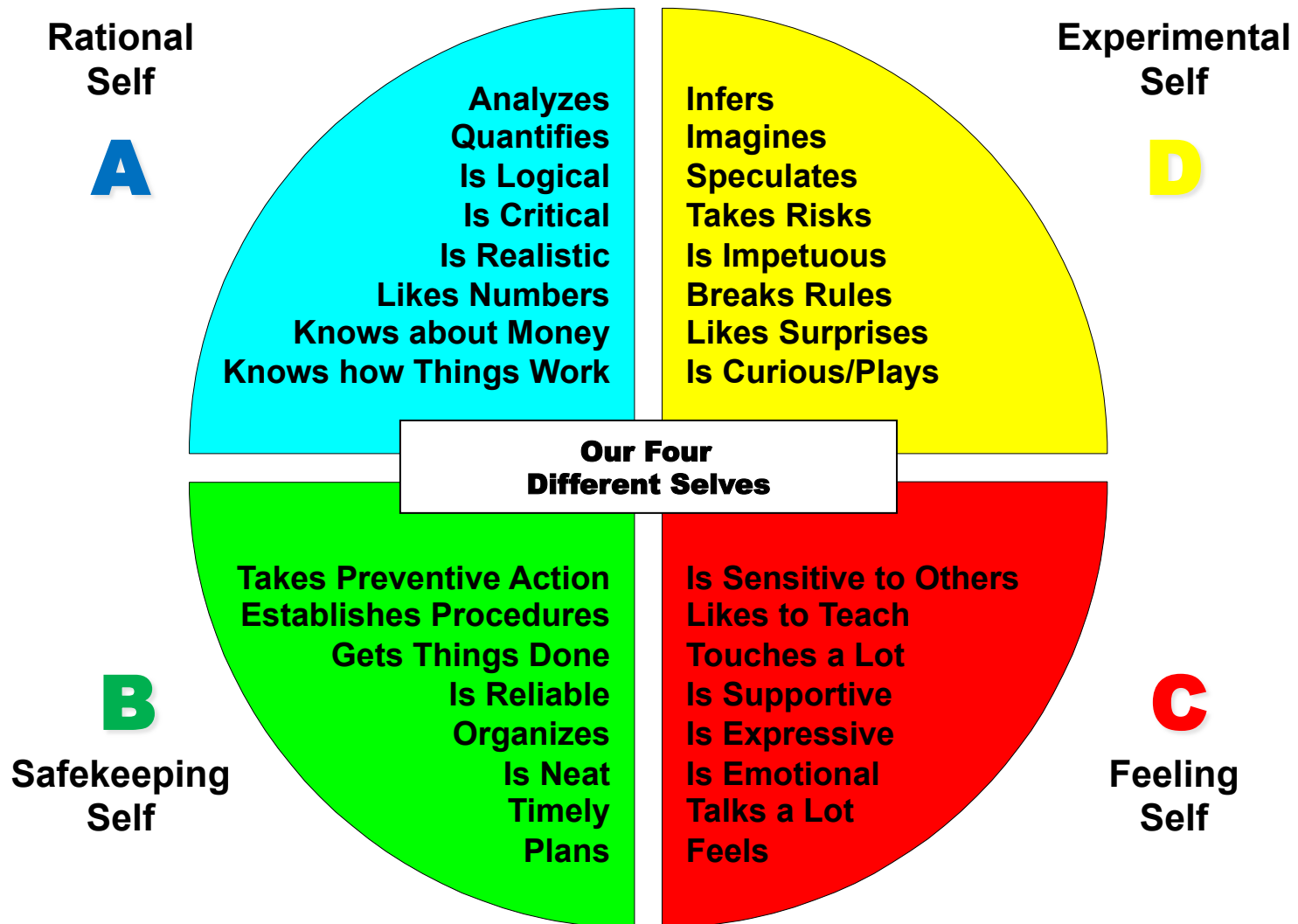
Intermediate Preference



Low Preference

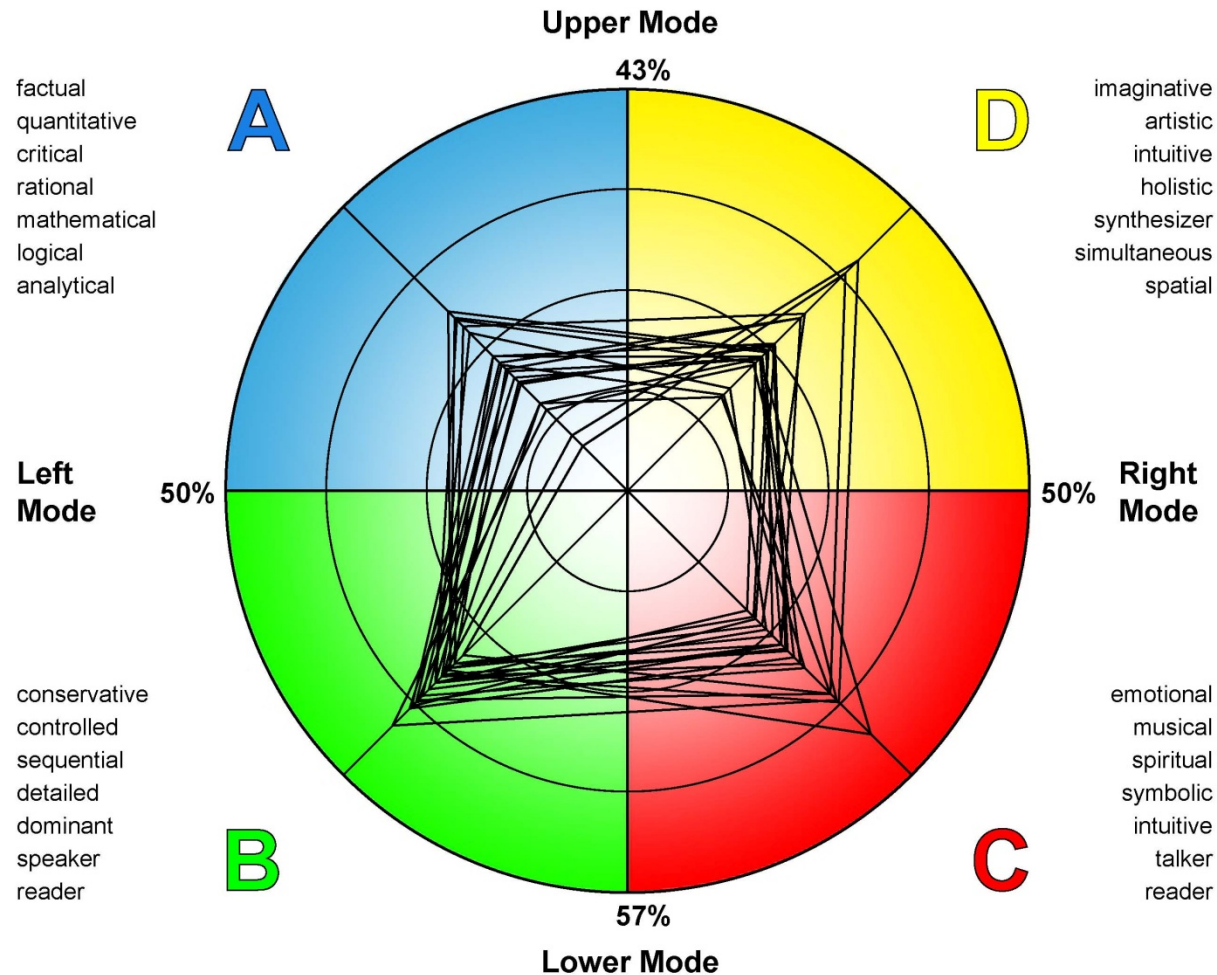


# What Are Your Brain Dominances?





# Composite (Team) Profile



The percentages indicate the preferences for one Mode compared to the opposite Mode

# Belbin's Nine Team Roles

	CONTRIBUTIONS	ALLOWABLE WEAKNESSES
<b>PLANT</b>	Creative, imaginative, unorthodox. Solves difficult problems.	Ignores incidentals. Too preoccupied to communicate effectively.
<b>RESOURCE INVESTIGATOR</b>	Extrovert, enthusiastic, communicative. Explores opportunities. Develops contacts.	Over-optimistic. Loses interest once initial enthusiasm has passed.
<b>CO-ORDINATOR</b>	Mature, confident, a good chairperson. Clarifies goals, promotes decision-making, delegates well.	Can be seen as manipulative. Offloads personal work.
<b>SHAPER</b>	Challenging, dynamic, thrives on pressure. The drive and courage to overcome obstacles.	Prone to provocation. Offends people's feelings.

## ***Belbin's Team Roles (cont)***

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### **MONITOR EVALUATOR**

Sober, strategic and discerning. Sees all options. Judges accurately.

Lacks drive and ability to inspire others.

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### **TEAMWORKER**

Co-operative, mild, perceptive and diplomatic. Listens, builds, averts friction.

Indecisive in crunch situations.

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### **IMPLEMENTER**

Disciplined, reliable, conservative and efficient. Turns ideas into practical actions.

Somewhat inflexible. Slow to respond to new possibilities.

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### **COMPLETER FINISHER**

Painstaking, conscientious, anxious. Searches out errors and omissions. Delivers on time.

Inclined to worry unduly. Reluctant to delegate.

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### **SPECIALIST**

Single-minded, self-starting, dedicated. Provides knowledge and skills in rare supply.

Contributes on only a narrow front. Dwells on technicalities.

# ***Tuckman's Stages of Team Development***

- **Conceived by Bruce Tuckman in 1965**
  - *Four Stages*: Forming, Storming, Norming, Performing
- **Measured by two key factors**
  - Level of *Enthusiasm / Motivation*
  - Level of *Skill / Ability*
- **Helps teams anticipate what they will go through**
- **Prevents teams from being surprised by events**
- **Helps leaders gauge how to move teams forward**
  - Helps leaders understand why teams act the way they do
  - Helps leaders change their leadership approach to match the development stage of the team
  - Helps leaders avoid hindering team progress

# The Team Development Picture

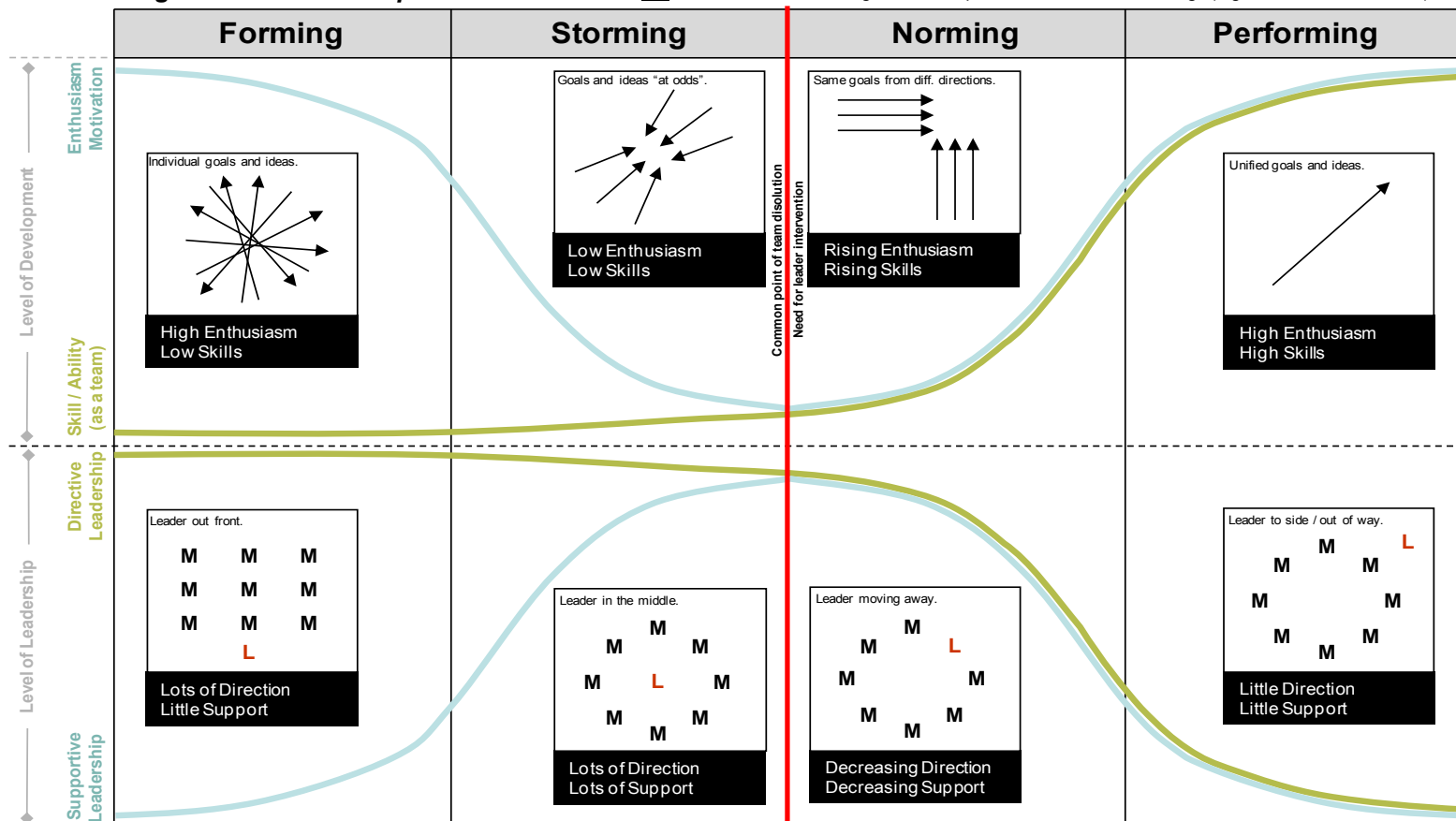
## Team Notes:

All teams must and will go through all phases of development. You can't skip any!

Storming is a natural part of team development. Don't give up!

Teams will revert back to earlier stages of development when conditions change (e.g., tasks, team members).

## Stages of Team Development



## Corresponding Leadership Styles

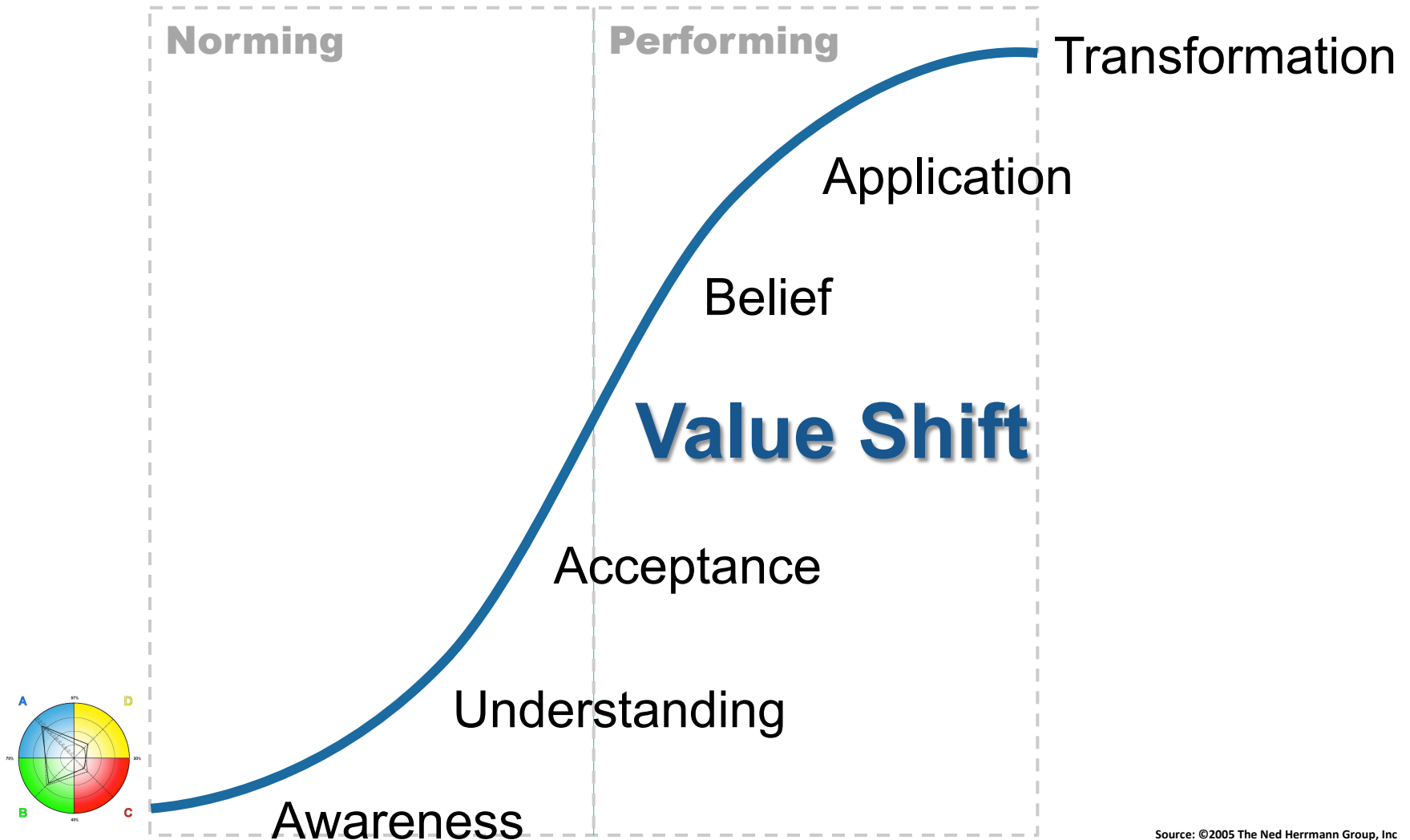
## Leader Notes:

Leadership styles and relations to team members must change as teams move through stages of development.

Leaders who refuse/fail to change, lock teams into the stage corresponding to the style of leadership.

Storming is a natural part of team development. Don't try to prevent it; just monitor it and let it happen.

# ***HBDI Mental Path to Self (and Team) Development***





## Key Insights

- It's as much about the **people and their ability to work together** as it is about the collective technical capability of the team – both are needed
- It takes many **different personality types and skill sets** to form an effective team – you need “whole brain”
- Effective teams consciously fill **critical roles and responsibilities**
- All teams progress through **four stages of development**
- You can't “skip” any stages
- Leaders must change their **expectations and leadership approach** to match the development stage of the team

