

The Traditional Meets The Emergent: The Modernization of T-Groups

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Abstract

Globalization is leveling the playing field for organizations and there is a need to know how to compete without geographical borders. The fleet-of-foot are those who use their radar to analyze data quickly and adapt. They thrive on flexibility and find new ways of being present in the world. What limits an organization is its inability to effectively utilize people doing the work, specifically the power of working within groups.

Since 1947, the T-Group helped individuals understand themselves and their impact on others in a group setting. The theory used to develop the methodology of the T-Group is sound. However, the emergent field of Human Systems Dynamics (HSD) has explored concepts found at the intersection between nonlinear dynamics and the wide range of social sciences. Since the 1990s, HSD has been developing theory, practice, and tools and the concepts are fresh and creative. One such tool is the Human Systems Dynamic Group (HSD-Group). The theory and process of this tool is in an emergent state.

The T-Group approach is to utilize the group for individual learning and relies on psychological and social systems theories. The HSD-Group approach is as a self-organizing learning community pulling in applications from complexity science and chaos theory. The learning is directed toward seeing and influencing patterns and understanding the tools that are applicable.

This paper compares the traditional T-Group with the HSD-Group by looking outcomes, norms, modules of each. Additionally, the concepts of feedback and group dynamics are explored.

History

The field of Organization Development and Change (ODC) has a richly recorded history of the early days, the founders, and founding principles. These included the study of group dynamics and development of the T-Group starting in 1946 with work of Lewin, Bradford, Benne and Lippitt (Clayton & Lucas, 1999). Many of the founders of ODC participated in T-Groups during these early years and credit those group experiences as critical to their development of further theory and in the shaping of the kind of practitioners they are today.

In addition to the emergence of the T-Group was foundation of the National Training Laboratories (NTL) in 1947. As scientists and educators from many fields and countries explored concepts of social justice, they discovered that sensitivity training or the T-Group could be used to engage conversations around difficult issues.

As the T-Group labs gained momentum during the mid 1950s they were guided by the philosophy that learning could be maximized if it occurred away from home and over an extended period of time. As T-Groups matured and gained in credibility, additional learning concepts were included such as leadership, understanding group process, self awareness during group development, and skill development for the change agent. Campbell, Flynn, and Hay (2003) reflect that:

..researchers used either no leader or very laissez fair facilitators and discovered similarities among all groups, especially their transition through similar stages of development, from expectations of structure, to anxiety over its absence, to, usually, a transition into very cohesive, creative groups. Practitioners applied these findings on group development to two types of groups...The goal for both types of groups is to encourage the group to develop autonomously as much as possible, beginning with expectations of order, passing through chaos into the third stage of creativity, ideal for learning how groups work, or for personal therapy. Although on the surface, these applications might seem to using (sic) linear cause and effect—use this type of leadership and you will get these results—they are actually treating groups as nonlinear systems which evolve naturally in unexpected ways. (p.3)

The primary source of T-Group participants for NTL labs have traditionally come from corporations who send managers for additional people skill development or change practitioners seeking to hone their skills. During the last decade, these corporate clients faced serious economic challenges leading them to question the return-on-investment for 7-10 days of an employee's time and a fee of \$2,300 plus travel and food.

While this is a fascinating journey down memory lane, the developmental history of NTL and T-groups is not the subject of this paper. Instead, this paper will highlight a new method of understanding individual and group dynamics, pulling from complexity science and chaos theory. With globalization leveling the playing field for organizations, the need to look at human systems demands review. As organizations face the complexities of adapting to an ever-changing landscape of fast paced business decisions, short range strategies, and rapidly developing technologies the cry for new tools and models is heard. An evolving tool is the Human Systems Dynamics Group (HSD-Group).

The concept of systems thinking was explored starting in the late 1950s and was highly influenced by the sciences of engineering and management starting with the study of military structures. Molecular biology helped to create an understanding of DNA as a system which then gave rise to thinking about patterns. In his work *The Web of Life*, Capra (1996) states:

I shall argue that the key to a comprehensive theory of living systems lies in the synthesis of those two very different approaches, the study of substance (or structure) and the study of form (or pattern). In the study of structure we measure and weigh things. Patterns, however, cannot be measured or weighed; they must be mapped. To understand a pattern we must map a configuration of relationships. In other words, structure involves quantities, while pattern involves qualities. (p. 81)

Capra (1996) defines self-organization as “the spontaneous emergence of new structures and new forms of behavior in open systems far from equilibrium, characterized by feedback loops and described mathematically by nonlinear equations.” (p. 83)

These two concepts, self-organization and systems theory, provide a rich, new opportunity to explore what appears to be far from the state of equilibrium. As the founder of the HSD-Group, along with co-leader and NTL member, Ed Olson, we continue to explore and test the application of self-organizing, adaptability, and fitness with what we currently know about group dynamics. We are still in the early days of discerning the differences between a T-Group and an HSD-Group and will continue to evolve our process as we deliver our content-driven four-day labs.

Comparison of Outcomes

In reviewing NTL marketing material, the Facilitator Training Guide, and the NTL Reading Book (1999), the following is an exploration of the outcomes of each group. Each group has a component of personal learning and a component of group learning. In Table 1, each outcome has been identified as either a personal or group learning outcome.

Table 1: Outcomes Compared

T-Group Outcomes	HSD-Group Outcomes
1. Increase self-awareness of behavior and interpersonal style in relation to others. (personal)	1. Experience the feeling of being in a self-organizing system. (personal)
2. Learn how to relate to and communicate more effectively with others (personal)	2. Learn how agents within a system influence and shape the degree of self-organizing. (personal)
3. Develop ability to give and receive feedback effectively (personal)	3. Learn complexity metaphors and Human Systems Dynamics tools to understand the self-organizing process for individuals and groups. (group)
4. Increase your understanding of group dynamics and group development (group)	These include:
5. Increase your ability to manage interpersonal conflict productively (personal)	a. CDE Model
6. Increase your understanding of how the differences of race, gender, age, and culture impact all relationships (personal)	b. Complex Adaptive System
7. To introduce awareness and valuing of diversity as a norm (personal)	c. Feedback loops
8. Increase your understanding of leadership and authority in group (personal)	d. Patterns
9. To develop community (group)	e. Simple Rules
10. Understanding the impact of one's behavior on others (personal)	f. Stretch and Fold
	g. Self-organized criticality
	h. Stacy Landscape Diagram
	i. Bifurcation
	j. Percept Language
	k. Difference Matrix
	l. Images and Symbols

Of the outcomes above, the T-Group identifies 10 outcomes, 8 of which are personal and 2 are group outcomes. The emphasis on T-Group outcomes is heavily weighted toward the personal learning approach. HSD-Group identifies 3 outcomes, 2 of which are personal and 1 is group. There has been a conscious effort to differentiate the learning outcomes and to introduce new language such as: agent, self-organizing, CDE Model, complex adaptive system, and simple rules.

Since this language is different from that found in T-Groups, I will define some of them here:

- Agent: semi-autonomous actor that causes activity within the system
- Self-Organizing System: a spontaneous generation of new structures and patterns based on internal dynamics that emerge from the interactions of the agents in the system
- Complex Adaptive System: a collection of semi-autonomous agents that interact in unpredictable ways leading to system-wide patterns, which, in turn, reinforce the behaviors of the agents in the system.
- Simple Rules: broad statements that guide how decisions are made, which the agents use to generate system-wide patterns

The introduction of new language helps the participant to value their HSD-Group experience differently from a T-Group. The expectation is that new concepts and models will be introduced that can be applied to the participant's organizational or work system in multiple ways and in differing situations.

Comparison of Norms

During the start-up of any group, the participants learn there is purpose or agenda for the meeting and there is generally a leader or facilitator. The group may take time to create operating norms that guide behaviors for the group.

When comparing norms, we see a divergence between the T-Group and HSD-Group. One of the first theories presented in the HSD-Group is the Eoyang CDE Model (Eoyang, 2001) which was further developed in *Facilitation Organization Change* (Olson & Eoyang, 2001). Eoyang studied the conditions for self-organizing and isolated three essential principles that apply to every self-organizing system. Eoyang (2001) states that these three conditions serve as "meta-variables to shape speed, path and outcomes of the self-organizing process in human systems." (p. 5) and are identified as:

- Container – sets the bounds for the self-organizing system and defines the self that organizes.
- Differences –determine the primary patterns that emerge during self-organizing processes and may be reflected and reinforced by other agents in the system to establish a system-wide pattern.
- Exchanges – transfer material, energy, or information between system agents, transform each in some way, and lead to adaptability of the system as a whole.

Using the CDE Model as a base, the following is a comparison of the norms for T-Groups and HSD-Groups. Table 2 identifies the norms for each group. Each is labeled as a container,

difference, or exchange. However, what may be the container at one moment may become the exchange in another. Therefore, each of the norms is the author's view of how the norms can be labeled as they are first developed and articulated.

Table 2: Norms Compared

NTL T-Group Norms	HSD-Group Norms
1. Stay in the here and now. (container)	1. Stay in the here and now. (container)
2. Use "I" language or "impact vs. blaming language" when working with collective cultures. (exchange)	2. Search for what will enliven the system. (difference)
3. Pay attention to feelings as well as thoughts. (container)	3. Use "I" language to reveal your ideas, feelings, and thoughts. (exchange)
4. Create a safe space for each other. (container)	
5. Take responsibility for one's own learning and experience. (container)	
6. Take care of ones self. (container)	
7. Be willing to take risks. (exchanges)	
8. Honor start and stop times. (container)	
9. Maintain confidentiality. (container)	

Of the 9 T-Group norms, 7 are container norms and 2 are exchange norms. There are no difference norms. In the HSD-Group there are only 3 norms identified, one each for container, differences and exchanges. At the beginning of the T-Group, the safety of the container is of primary concern for the participants. As the group begins to interact, some of these norms will shift from container norms to either difference or exchange norms. For example: paying attention to feelings will begin to set the stage for how exchanges are engaged. Taking responsibility for ones own learning may shift, surfacing differences in the room.

HSD-Group norms distinguished

The *container* norm of "stay in the here and now" empties the container of outside forces at the beginning of the group. For participants, this is a relatively unknown experience. With the container empty of all but the norms, discussions about work, family, friends, problems, history, and theory are not in the container. The only present elements are the agents. Each agent brings individual history, preferences, projections, ways of looking at the world, mindset, and operating modes. Each agent brings expectations, hopes, fears, and excitements about what will happen in the group. As Campbell, et al. (2003) state:

In new groups, participants try to retain the order they have found elsewhere in society. There follows a period—extensive or brief—when there seems to be great disarray as members search for an appropriate structure. There may be much experimentation and anxiety as the search goes on. Successful groups find their way out of this chaotic pattern into a realm where they can constructively evolve into the best form for their

purpose...The process of moving from disorder to order has several names—autopoiesis, self-organization, autocatalysis, adaptation—depending upon the field of study. (p.6)

Since most participants are familiar with group start-ups that have an agenda and a facilitator, they have rarely had the opportunity of being in a semi-empty container and experiencing emergence as the system begins to self-organize. The T-Group is that the initial focus is centered on individual expectations of the container as compared with the HSD-Group which keeps a focus at the systems level.

The *difference* norm encourages the agents to search for what enlivens the system by looking at feedback loops. If there are no differences in the system, it will enter entropy and fizzle. The agents must actively search for differences and pay attention to which difference will make a difference. This norm is not intended to focus on the diversity of the agents or their individual bias. The HSD-Group will actively engage in noticing differences that create and/or change patterns and why. The agents hone their attention on what is emerging and what becomes routine. They will engage with stretch and fold of the emergent system and identify those elements that help the group to sustain itself.

The *exchange* norm of using “I language” keeps the agents in a state of awareness of their own ideas, feelings, and thoughts. You, us, and we are all words used to refer to something or someone that is outside the container. The challenge of this exchange is that some agent/participants feel they are being egotistical when taking about themselves in the first person. However, using “I statements” helps the other agents to clearly understand the exchange is the agent providing internal data to the system. This is a norm for both the T-Group and the HSD-Group and provides a strong guideline for exchanges.

The HSD-Group limits the number of norms to three as a way of honing in on the first model of learning. An additional learning module is the development of simple rules. These may be used as norms for the group but are interjected at a later opportunity after the group has the opportunity to see how simple rules emerge from group interaction.

The Comparison of Modules

The Trainers Guide (2006 unpublished) for the NTL T-Group lists required modules that focus on individual learning about blind spots, diversity, and the art of giving and receiving feedback. Optional modules are available for use if and when they become an issue within the group. These include concepts around power, conflict, covert processes, diversity, group dynamics and group decision making. It is up to the facilitator to decide when to bring these concepts into the group and what tool is the most effective.

In comparison, the HSD-Groups use tools and models that identify the self-organizing process and how to influence it. Content includes the models such as the Eoyang CDE Model and Stacy Landscape Diagram. Tools introduced are those that help influence the self-organizing process such as simple rules, patterns, percept language and images and symbols. Table 3 below

compares the T-Group with the HSD-Group. For the purpose of this paper, the terms for the HSD-Group have been defined:

Table 3: Required Modules Compared

T-Group Required Modules	HSD-Group Required Modules
<ol style="list-style-type: none"> 1. The experiential learning model 2. Use of journaling 3. Johari Window as a context for interpersonal communications and feedback 4. Giving and receiving feedback 5. Individual cognitive framing (e.g., cycle of self awareness, taking responsibility for one's own perceptions/experiences, Ladder of Inference, Albert Ellis' Irrational Beliefs, etc.) 6. Interpersonal communication (e.g., filters, intention vs. impact, verbal/non-verbal congruence, etc.) 7. Awareness of diversity dynamics 	<ol style="list-style-type: none"> 1. CDE Model: The foundational elements of self-organizing systems 2. Landscape Diagram: Based on Stacey's work and understanding the dimensions of self-organizing 3. Simple Rules: how to develop and use the simple list of expectations or principles by which the agents in a system manage themselves and generate system-wide patterns 4. Patterns and Attractors: what they are, how to recognize them, how to influence them 5. Percept Language—the adaptive system approach to individual feedback loops 6. Group Sand Tray—the adaptive system approach to group feedback loops

The focus of the T-Group is on individual learning within the group context. By contrast, the focus of the HSD-Group is on systems learning with the group as a vehicle for experiencing what a system does and acts like while under certain CDE influences.

Optional modules for T-Groups are designed to fit the needs of the group depending on who is present and what issues are surfaced. In the HSD-Group, the additional modules pull in metaphors from the sciences and help the agents to discover a different way of looking at the actions of the self-organizing process. These additional tools help the participants to discover what difference help or hinder the group development.

Optional learning modules

Table 4 compares the optional learning modules of the T-Group and HSD-Group:

Table 4: Optional Modules Compared

T-Group Optional Learning Modules	HSD-Group Optional Learning Modules
<ol style="list-style-type: none"> 1. Inclusion – Control – Affection 2. Feelings, thoughts, observations, judgments 3. Differences between leveling, confrontation and encounter 4. Cross-cultural perspectives on communication 5. Projections/Ladder of Inference 6. Impacts of individual behavior on group dynamics/the EIAG reflection process 7. Style or type difference 8. Dynamics of diversity (<i>e.g.</i>, issues of privilege, inclusion, dominance/subordination) 9. Group dynamics (task/maintenance roles), group decision-making and stages of group development 10. Power, influence, conflict, overt and covert processes 	<ol style="list-style-type: none"> 1. Difference Matrix: how to have a conversation about mindset 2. Self-Organizing criticality—identifying the tipping points in groups. 3. Butterfly Effects—where the attractors begin (Capra, 1996) 4. Bifurcation: the splitting of the system 5. Stretch and Fold: the stretching of the differences until there is space for new resources and then folding back to stabilize. 6. Complexity theories and definitions. 7. Review of the sciences and their influence on HSD

These optional models can be used depending on the group dynamics or what issues are being raised, and are introduced into the group based on the discretion of the facilitator.

The Comparison of Feedback as a Process

One intended outcome of the NTL T-group is to improve communications and feedback. Seashore, Seashore and Weinberg (1997) write: “If we want to build, maintain, or test our relationships, feedback is our only source of information. Without feedback, how could we test the reality of our perceptions, reactions, observations or intentions?” (p 7). The assumption is that the individual attending a T-Group desires information that could lead to improvement relationships, work performance and personal development.

During the T-Group, participants will be asked if they wish to receive feedback from other participants about their impact in the group. If so, they will be asked what kind of feedback is desired. Members of the group are invited to comment on how they have perceived the individual by providing “information about past behavior that is delivered in the present which may influence future behavior.” (Seashore et al., 1997, p.3)

Helpful articles that frame the concept and process of feedback in the *Reading Book for Human Relations Training* (NTL Institute for Applied Behavioral Science, 1999) include what individuals bring to the T-group, communications filtering, diversity, levels of communication,

the Johari Window (looking at blind spots), listening, self disclosure, diversity, self awareness, and conflict.

The key distinction between feedback in the T-Group and the HSD-Group stems from the question of why should we do feedback? In the T-Group, feedback is to help the individual learn more about themselves. Capra (1996) presents a different view. “Western science and philosophy has a tension between the study of substance and form. The study of substance starts with the question, what is it made of? The study of form with the question, what is the pattern?” (p. 80)

The HSD-Group provides a venue for the study of two types of feedback. At the group level, feedback loops help the group to self-organize. At the individual level, the agent seeks to learn how they individually can impact the self-organizing process. Capra (1996) sees

...self-organization as “the central concept in the systems view of life, and like the concepts of feedback and self-regulation, it is linked closely with networks. The pattern of life, we might say, is a network pattern capable of self-organization. (p. 83)

Group Feedback Loops

The complexity science concept of positive and negative feedback does not carry judgments that we sometimes associate with personal feedback. Lucas (2006) sees feedback as “a connection between the output of a system and its input, in other words a causality loop - effect is fed back to cause.” Campbell et al. (2003) defines feedback as:

Negative feedback refers to any information fed back to the system which causes it to keep its output variety constant. *Positive* feedback is information which makes the output increase in variety...Positive feedback for nonlinear systems may have unexpected and devastating effects, according to Arrow et al. Since variety is increasing under positive feedback, the continued iteration of such feedback will eventually destabilize the group, and make it chaotic. Eventually, the group may collapse if it becomes too unstable. On the other hand, with the proper amount of positive feedback, the group will become very creative. Negative feedback may constrain the group so much that it does nothing except what it is told to do, as in the case of Lewin’s groups with authoritarian leadership.

Alternatively, just enough negative feedback, ensures that there are fewer errors, and the work is predictable, especially important for repetitive work. (pp 4-5)

In the HSD-Group, the CDE Model helps the participants to understand how they can more effectively work with the feedback mechanisms at the group level. For example, if the container is not constrained and there are few feedback loops, differences will not surface or be brought in and therefore the exchanges are random and superficial.

On the other hand, if the container is constrained, the interactions are tight and there will be rules, protocol, and prescribed ways of working together. The agents will not search for what is meaningful or how to maximize different ways of working together.

If the container is in a self-organizing mode, the interactions between the agents will be open to new ideas and approaches. There will be a curiosity about how agents are viewing the system or

group and there will be open exchanges about what might happen if something different were tried or explored. Table 5 below outlines the distinctions.

Table 5: CDE Constraints

Type	Containers	Differences	Exchanges
Not Constrained	Large, diffuse, open	No distinctions	Random, superficial interactions
Self-organizing	Permeable	Identify & amplify	Meaningful interactions and transactions
Constrained	Closed, tight, small	Ignore or suppress important differences	Controlled interaction

During the group's life cycle, there will be movement into and between all three types of containers. Some will be healthy and timely but may not feel comfortable to the agents. When the group is constrained in an unhealthy way, the agents will engage in conflict, disagreements and resistance in the process of seeking equilibrium. The human goal is to reach for the comfort zone of equilibrium. Actually, this is the beginning of a death cycle for the group because there is no new information or evolution to sustain the growth cycle.

Feedback loops to the agent

At the personal level, the HSD-Group acknowledges others are a mirror of the self. Using the approach developed by John and Joyce Weir, the HSD-Group incorporates the Percept Orientation as the methodology for feedback to the individual. During one of his group lectures, Weir stated that "Each of us constructs a universe and lives from minute to minute by a personal epistemology, our theory of meaning, developed since birth and always undergoing change." (J. Weir, lecture, 1996)

In a lecture handout, Weir states:

We in the Western world have been taught a system based on concepts, ideas, objects, facts, principles, forces and "things out there", THE CONCEPT OF ORIENTATION. This orientation assumes the existence of an external world of objects and forces that dictate our experience and control our lives. It forms the basis for all our communications, including loving, everyday language, law, medicine, politics, science and technology, and especially education. To facilitate understanding the process of Self Differentiation we need a different theory, one based on internal events, sensations, feelings, thoughts images, in a word "percepts". THE PERCEPT ORIENTATION is a theory of internal processes and epistemology that recognizes the primacy of percept formation in the construction of meaning. In principle it states that I am constantly

performing sensory events. I attend selectively to this stream of neural inputs, filter out some, and combine them to form an acceptable-to-me image or percept. This is largely an unconscious process, learned and developed throughout my lifetime and making up the fabric of my life experience. (J. Weir, lecture handout, 1996)

The percept language helps the agent to focus on the part-of-me that is acting within the system. The norm of using “I” language helps the agent focus on what is occurring in the moment. In his labs, Weir (1996) teaches:

Percept language is the language of perception, the language of “inside me”. In contrast to concept (everyday) language which is judgmental, circuitous, circumspect, distancing, oblique, and often confusing, percept language is non-judgmental, experiential, reportorial, direct, and self-disclosing.

The Percept language states:

1. My existence is the process of me doing me.
2. Nothing happens to me. I am the agent of all my experience.
3. All my world is a projection of my own percepts.
4. I don’t interact with a “world out there” but only with the inner parts-of-me.
5. I can only experience me. I can never experience another.
6. I own all parts of me, my percepts, projections, hopes, fears, dreams, fantasies, experiences, etc. They are all my own constructions.
7. I am the organizer, constructor, and sole authority of my sensations, perceptions, feelings, and responses. I have complete responsibility for how I “do” myself, and no way to assume responsibility for how someone else “does” himself. (J. Wier, lecture handout, 1996)

The percept language becomes the container for individual feedback as each agent uses the stimuli from other agents. By using the percept language, the individual uses the tool of self-feedback and thus becomes a more conscious agent within the system. If the individual agents are able to make themselves more aware of their internal operating platforms, they are able to exert greater influence. Alexandra Merrill (1991), an early colleague of the Weir’s, explains:

We form our percepts in ways that will maximize our comfort and minimize our discomfort or pain’ so, we have some conscious choice about how we form our percepts, but it’s mostly unconscious. We dictate what our percepts are going to be in order to keep ourselves most congruent with different elements in our universe: our genetic origins, the language we speak, the education we’ve had, the religion we believe in, the physical cognition we have at the moment, the feelings we have, the moods we’re in, our general needs, our individual needs, our gender, our health state, how old we are, our past history, our destiny, our ambitions, our expectations, our dreams, our fantasies, our values and more. (pp. 8-9)

John and Joyce Weir developed their work and delivered it mainly through their 8-day labs. They did not publish their work extensively and chose to pass on their teachings to others through their labs. It is for this reason their innovative work has remained undiscovered by many practitioners. John Weir died on March 29, 2006. Joyce Weir resides in a full-time care facility. (Mix, 2006)

The HSD-Group incorporates Weir's important work because it provides a lifetime learning tool for individual feedback that does not require external agents. Agents are able to set aside what they believe others in the group are doing and to begin to see which system actions are in motion. Patterns, attractors, fractals, bifurcation, and other system-level are able to be seen and are explained in the following section on group dynamics.

Comparison of Group Dynamics

The history and learning possible in a T-Group are documented in the works of Benne (1956), Bradford (1964), Egan (1971), Gibb (1978), Schutz (1958), Hirsch (1987), Knowles (1972), Luft (1969), and the *Reading Book for Human Relations Training* (NTL Institute for Applied Behavioral Science (1999)). These writings shed light on group dynamics and processes such as: conflict, covert processes, diversity, the shadow side of groups, interpersonal and group awareness, diversity, self-awareness. The issues of role and goal include: gatekeeper, facilitator, observer, mediator, task difficulty, leadership, and structure. The issues of participation include: the invisible member, masking, participation pattern, gender, age, conflict, cohesion, intimacy, inclusion, openness, atmosphere, task functions, and communication.

Group phases have been identified as:

- Individually centered, frustration and conflict, attempted consolidation of group harmony and individual assessment, flexibility of group process, emphasis upon productivity in problem solving (Thelen, 1949)
- Dependence (submission), counter dependence, resolution, enchantment, disenchantment, conceptual validation. (Bennis, 1956)
- Inclusion, control, affection Schultz (Schultz, 1958)
- Fight, flight, unite (Bion, 1961)
- Establishing the hierarchy, conflict and frustration, growth of security and autonomy, structuring in terms of work-task. (Golembiewski, 1962)
- Ambiguity, self-investment/participation, collaboration and learning from peers, motivation for learning, experienced behavior and feedback, group growth and development. (Bradford, 1964)
- Forming, storming, norming, performing. (Tuckman, 1965)

Knowles and Knowles (1972) describes what is going on with groups as "...the complex forces that are acting upon every group throughout its existence which cause it to behave the way it does." (p.14) They continue: "Groups are, first of all, collections of individuals. An understanding of the behavior of groups, therefore, has to start with an understanding of the behavior of individuals." (p. 32)

Self-organization as a term has been used within the human science field for decades but misunderstood in its application. Despite its intuitive simplicity as a concept, when applied to

human systems, it has proven notoriously difficult to define and pin down formally or mathematically. Lucas (2006) describes self-organization as including:

- a) The evolution of a system into an organized form in the absence of external pressures.
- b) A move from a large region of state space to a persistent smaller one, under the control of the system itself. This smaller region of state space is called an attractor.
- c) The introduction of correlations (pattern) over time or space for previously independent variables operating under local rules.” (Section 2.6)

The language that Lucas uses to describe the self organizing process is much different from that found in T-Group literature:

Typical features include (in rough order of generality): absence of external control (autonomy), dynamic operation (time evolution), fluctuations (noise/searches through options), symmetry breaking (loss of freedom/heterogeneity), global order (emergence from local interactions), dissipation (energy usage/far-from-equilibrium), instability (self-reinforcing choices/nonlinearity), multiple equilibria (many possible attractors), criticality (threshold effects/phase changes), redundancy (insensitivity to damage), self-maintenance (repair/reproduction metabolisms), adaptation (functionality/tracking of external variations), complexity (multiple concurrent values or objectives), and hierarchies (multiple nested self-organized levels) (Section 2.6)

There is now more awareness of the self-organizing constructs developed in the sciences which can now be applied to human systems. The HSD-Group seeks to learn the self-organizing process as a way of influencing groups and their dynamics. Several concepts are introduced during the process which include:

- Complex Adaptive Systems: the theory coming from computer science and computer simulation models where computer codes are built to act as individual agents and are given characteristics to perform. Trough the norm of being in the here and now, the HSD-Group ensures that information comes from within the system.
- Attractor Patterns: Are influenced by other subsystems through a series of transforming feedback loops. Observing the behavior in one part of the system might not provide information about the pattern of the whole and visa versa. There are four kinds of attractor patterns:
 - Point Attractor: Form around a central point that seems to draw the agents of the system toward one inevitable place in time, space, or value which can be observed in the group when someone sees to assume the role of the leader or there is a focus on a particular topic.
 - Periodic Attractor: Repeat themselves at regular intervals such as time, task or project such as group start and stop times or the use of silence either by individuals or within the group.
 - Random Attractor: Interplay of forces is so complex they cannot be seen, even when the observer steps back and looks at the whole picture such as different expectations by individuals within the group or the concept of privilege.
 - Strange Attractor: Is bounded in a finite way, but still contains an infinite number of variations within the boundary. The system never repeats itself. Each new event is unique, though falling within a predictable range of possibilities. The

activity in the strange attractor basin may seem erratic but taken together over time a highly organized pattern forms such as when there is an emotional release or and individual has a self-discovery.

- Coupling: Agents connected to each other in apparent ways (tight, loose, not at all)
- Dissipative Structures: From Prigogine (1984) and his work with thermodynamics which include the acknowledgement that when the system gets excited, distracted, far from equilibrium and then spontaneously, it finds its own order. The new order dissipates the old disorder. It exists for a while, gets far from equilibration hits the spontaneous state and then repeats. It can bring in new information. Group theory has defined this as form, storm, norm, perform.
- Emergence is the process of complex pattern formation and comes from the work of Hartmann (1967). Emergence happens over time, is dynamic and scalable. It depends on feedback loops and relationships which cannot be controlled or predicted. The learning is what influences, tools and language can have an impact on the emergence of the group.
- Emergent behavior: Hard to predict due to the number of exchanges and the differences.
- Fractals: From the work of Mandelbrot (1983) and are based on mathematics. The boundaries are fuzzy and permeable. They are repeatable at multiple levels of the system. They are generated when a simple relationship is repeated over and over in different places and gives different results. HSD-Group participants learn to spot fractals as they develop and learn which tools can influence the direction of the fractal.
- Self-Organized Criticality: Per Bak (1996) wrote *How Nature Works* and Gladwell (2000) wrote *The Tipping Point* as examples of self-organized criticality. As agents interact, tensions can be generated. Every change in the system increases tension until some small additional change causes the whole structure to shift.
- Stretch and Fold: First known as the Baker Transformation from mathematics and is applied as a metaphor in groups. The system stretches it's differences until there is space for new resources and options and then fold back to consolidate and stabilize

The approach to systems work within the HSD-Group is different from that of the T-group. The HSD-Group uses complexity science and chaos theory to present concepts that have significant human system applications. During the three and a half day journey, the experience is focused on what creates a sustainable system. The language and tools presented are designed to help understand how agents assist themselves, others and groups in their own self organizing process. During the learning process, agents explore such questions as:

- What is the role of language for creating shared meaning?
- Do containers form around language?
- Does the system organizes around a novel experience first and then gives it language?
- Will the container be treated differently if it is given a different name?
- What are the simple rules that guide the emergence of the group?
- In the HSD-Group process do we experience conflict or cooperation?

The practice of creating and influencing containers while observing their dynamics is a difficult task. For example, as the agents/participants learn to use the CDE model they might track the container of *control* and learn there are differences of age, sex, leadership, power over, or

deferring to power. The exchanges might be tight at the beginning when agents filter what they say and experience self doubt but begin to loosen as control becomes a non-issue. Or the agents/participants might identify the container of identity where the group members experience differences in how they introduce themselves, how they accept or work with differences of personality, take risks, and self-sensor. The exchanges will be tentative at first as each introduces who they are, explores speaking their mind or going along with the group direction even if it is not their preferred direction.

Testimonials from HSD-Group Participants

The T-Group took years to perfect in terms of methodology, trained facilitators, and reputation. The HSD-Group has captured the learning of the T-Group development process, pulled in the work of various sciences and is testing out the module. Here is what some of the participants in 2006 labs said:

- “I learned to call into question traditional OD constructs at an even deeper level.”
- “I am astounded at how much I took from the past four days! I can hardly have a conversation in which more synthesized meaning from the experience does not emerge. In my three conversations with colleagues at one school, we revisited some "sticking points" and generated lots of ways of changing the container or differences to change the exchanges. A big insight for me is that the most important differences in our school containers are (1) changes in understanding--about the vision, about instruction, about our community of practice, about the school culture, about relationships with one another, about learning, etc. and (2) realizing that these differences can emerge with changed containers within the school container. Thanks so much for putting the learning experience together for us!”
- “We came curious and somewhat apprehensive, we came with hopes and beliefs, we came with secrets and fears, we came with different needs and expectations, we came eager to learn and open to the experience that was about to unfold. Fundamental to a HSD-Group experience is learning to communicate more directly and honestly, focusing communication on self rather than others, and bringing communication to the "here and now". This is a move away from the facade and role-play generally accustomed to, and a move toward more authentic communication and the unraveling of the mystery of human interaction. In the end, objectives were met and questions were answered by growing the awareness of being the sole author and owner of my perceptions, feelings, and responses, in accepting the power and responsibility of knowing that I can only experience me, and in the knowledge of owning every "part of me". I came as an individual looking for a discovery; I left with a part of you manifested in "the gift of me".”

Conclusion

There is a need for new models and tools to assist organizations as they compete without geographical borders. The study of Human Systems Dynamics provides new theory and practice, one of which is the HSD-Group. This paper compared the T-Group process and content with the emergent design of HSD-Group on only a few levels. Future research needs to include:

- What causes differences in experience based on agent composition of a lab?
- What is consistent or different between labs and why?
- Which of the required modules are easily accepted and adapted into organizations after a participant attends a lab?
- Under what conditions are optional modules presented for enhanced self-organizing processes?
- Are there other models and tools that help understand self-organizing processes that could be included in HSD-Group?
- What are some of the applications participants are able to make into their work life?
- Which applications take longer to incorporate into participant's work life?
- What marketing language helps leaders understand the learning their participants would experience?
- What will bring HSD-Group wider acceptance by leaders and change managers?

This new endeavor could lead to another body of research on dynamics of groups as seen through different lenses. There is definitely an emerging body of knowledge that deserves additional research. Pending that research, it is apparent to this author that HSD-Group has something unique to offer to individuals and leaders within organizations. There is a different way to look at social systems and there are new tools and models that will help organizations seek to effectively operate on the global landscape.

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