Ongoing Discussion "Thought Piece"

Rethinking Executive Education: A Program for Responding to Sudden Disruptions Caused by Dynamic Complexity

Prepared and Presented by

John Pourdehnad
john.pourdehnad@systemswisdom.com

and

Larry Starr
larrymstarr@systemswisdom.com

October 30-31, 2014

Ongoing Discussion Host: Bill Bellows
william.bellows@rocket.com

for

Aerojet Rocketdyne's
InThinking Network

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Abstract

Lately, many social systems (i.e., countries, organizations and projects) are
experiencing adverse situations that are characterized as "dynamic complexity."
These situations usually co-produce disruptions in the day-to-day operations as a
result of which many social systems become partially extinct. We posit this is
because these situations are not clearly recognized by those who are empowered to
deal with them.

In this paper we propose a new and updated approach to executive education that
takes into account the prevalence of dynamic complexity caused by massive changes
in the nature of the internal and external environments of a system. We argue that
the educational requirements necessary to prepare leaders who have the cognitive
capacity to steer through the "perfect storm," are very different from leading in
simple and stable contexts. We suggest that this proficiency emerges from the
interaction of relevant skills, accessed experience, knowledge and understanding of
the situation, practical wisdom and sound judgment, and relevant personality
attributes. We present a model with a multi-layered approach to executive
education which addresses how the ability to rapidly assimilate, sort through, and
comprehend vast amounts of data/information in order to make the right decisions
depends on approaches to learning, knowledge of critical concepts, particularly
systems thinking as a mindset/filter, and knowledge of enabling IT.

Keywords

Comments

Working paper

Authors

John Pourdehnad and Larry M. Starr

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Introduction

This paper contends that executive education programs are inadequate for
the present business environment which is characterized by increasingly dynamic
complexity characterized by increasing rate of change, widespread connectivity,
globalization, and innovation.[1] Sudden disruptions occur despite well-formulated
planning and without obvious anomalies in key performance indicators. The result
is that leading or managing as usual[2] is no longer effective.

Dynamic complexity describes the situation facing many countries,
organizations, programs, projects, and policies. This situation is a product of a new
and exceptionally rare combination of unforeseen forces that produce severe
turbulence[3] and strategic blindness[4] thereby increasing and exacerbating danger
and potential for failure. The significant risk is catastrophic outcome which may
result when those in positions of responsibility do not have the ability to recognize
what is happening – because cause and effect are subtle and occur in different time
and space – and do something effective to make changes. Although catastrophes
cannot be predicted, to a large extent they can be anticipated by leaders who
possess and wisely apply cognition, experience, appropriate decision making tools,
and judgment.

Inadequacy of leadership competency in coping with dynamic complexity is
not a function of the atrophying of analytical skills; these remain strong in leaders
and executive education programs, and they are essential for many situation
contexts. However, what is absent from executive education and other organized
management education is the recognition of additional systemic cognitive abilities

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

and social competencies for creating awareness to perceive situations exhibiting

complexities, and appropriate strategies for coping with sudden disruptions.

Nokia lost the smartphone battle despite having half of the global market share in 2007. Some argue that it was down to software, others that it was complacency. We argue that collective emotions within the company were a big part of the story. Leaders who are able to identify and manage patterns of emotions in a collective are better able to make their ambitious strategies a reality. Our argument centres around the idea that the emotions felt by a large number of people within an organisation can determine the success of strategy implementation even when these feelings go unexpressed.

Quy Huy and Timo Vuori, March 13, 2014[5]

Traditional executive education programs that the *people at the helm*, i.e.,

those in leadership or aspiring leadership roles of organizations, programs, projects,

and policies are required to undergo, although considered necessary, are not

sufficient to recognize the attributes or early warning signals and circumstances

from which complexities emerge. Traditional programs also do not enable

development of the distinctive and requisite proficiencies for addressing sudden

disruptions.

The pilot on stricken QF32 has revealed how his jet was just seconds away from disaster after an engine exploded four minutes into take-off. Qantas Captain Richard de Crespigny, who was at the helm of the state-of-the-art jet when the explosion occurred, also reveals how he and his crew managed to land his crippled plane as things went from bad to worse.

News.Com Australia, March 21, 2014[6]

It is becoming increasingly apparent that in today's turbulent environments that

challenges cannot be overcome by the application of reductionist thinking or linear

approaches or by top-down management styles[7] or even by the use of so called

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

experts from within or outside; yet organizations and governments continue these

approaches even in the face of a "perfect storm."* New ways of thinking, organizing,

and co-evolving are needed. Above all, what is needed is a new model of learning

that develops cognitive capacity to make sound decisions under adverse conditions

characterized by dynamic complexity.

We've had revolution in countries of North Africa; in Yemen, Jordan and Syria suddenly protests have appeared. In Ireland young techno-savvy professionals are agitating for a "Second Republic"; in France the youth from banlieues battled police on the streets to defend the retirement rights of 60-year olds; in Greece striking and rioting have become a national pastime. And in Britain we've had riots and student occupations that changed the political mood ... horizontalism has become endemic because technology makes it easy: it kills vertical hierarchies spontaneously.

Paul Mason (BBC UK), Twenty reasons why it's
kicking off everywhere, February 5, 2011[8]

The Premise

A new approach to executive education is surmised based on the following

propositions.

Proposition 1: Each state of dynamic complexity is unique and requires unique

responses. A standardized checklist, algorithm or preformed set of procedures or
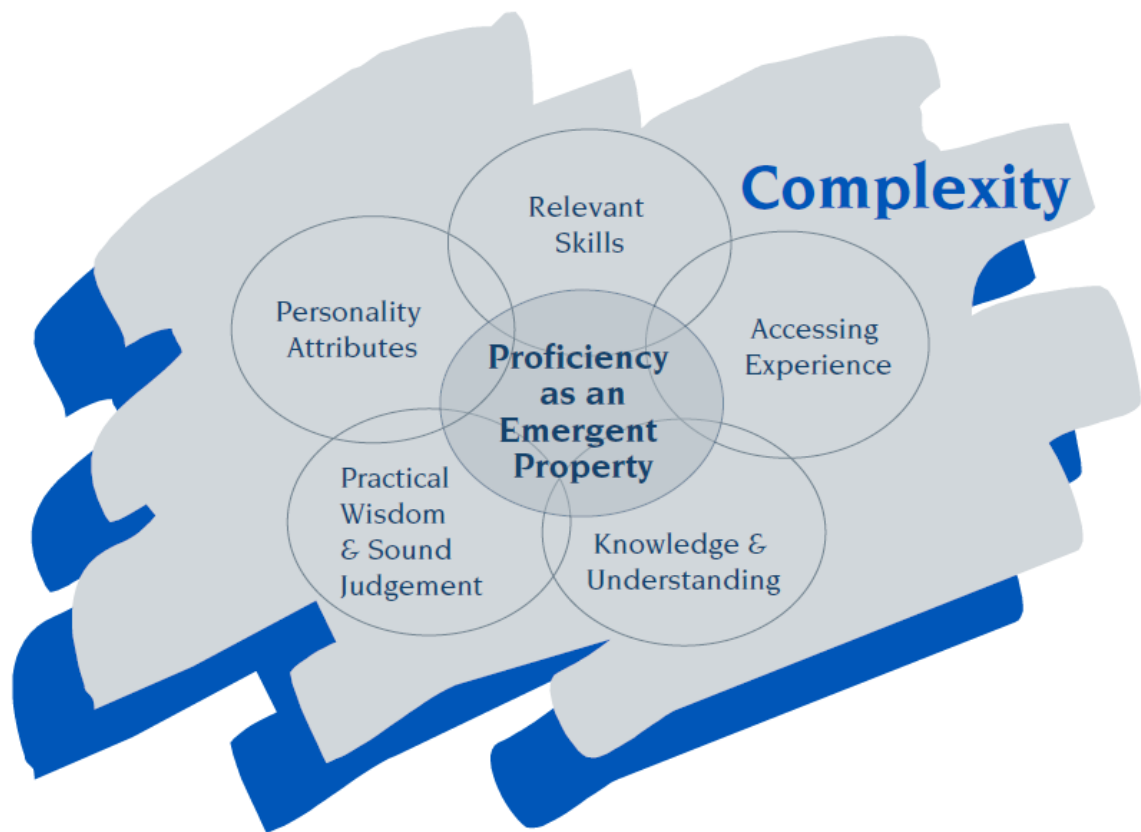
processes is inadequate by themselves.

Proposition 2: Proficiency to generate those responses and navigate dynamic

complexity is an *art*, an expression of creative competencies and imagination, based

on rapid integration and deployment of a portfolio of competences and capacities.

---

*A "perfect storm" refers to an event where a situation is aggravated drastically by an exceptionally rare combination of circumstances.

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

These interact with personality attributes of the leader to reach the valued

outcomes of effective decisions for improved performance.   Proficiency of making

effective decisions for improving performance is an emergent property of these sets

(see Figure 1).

This new program should focus on the pathway to anticipate and navigate

dynamic complexities, and how to avoid catastrophe by creating new models of

business thinking and structure in sync with the "new normal."

Figure 1. Proficiency to Make Effective Decisions for Improved Performance in
Dynamic Complexity

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Relevant skills refer to cognitive and performance abilities that are domain-general and domain-specific. General skills include collaboration, cooperation and communication; specific skills include use of specific software or technology in response to relevant stimuli or in appropriate environments. These include the ability and willingness to develop new platforms for opportunity beyond the current horizon as well as the diversity of talent and resources necessary to envision that world before those events actually occur.

Accessing experience refers to recalling from memory requisite and relevant past experiences that apply to the current situation but not to be hamstrung by them. Accessing these requires that the decision maker has accumulated over time and in varied circumstances through conceptual/intellectual learning, experimentation/action learning, and reflection/emotional learning a broad set of experiences from which to draw when confronted with sudden dynamic complexity.

Knowledge and understanding of the situation lead to efficiency compared to effectiveness (which is efficiency multiplied by measured value). We propose that the accuracy of perceiving a situation characterized by turbulence is significantly increased when using an appropriate perception model and methodology. Leaders in the Internet Century[9] must be comfortable with its messiness and uncertainties and be able to identify emergent phenomena and the linkage they have or do not have with the current system and business model.

Practical wisdom and sound judgment refer to an intellectual and moral virtue that ensures selection of the right end by the right means – cognitively and behaviorally - across situational contexts. Unlike a state of science but similar to art,

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

it is concerned with both producing outcomes and with the experience of doing the

action itself. It includes study of humanities in addition to technology.

Leadership attributes are the individual capacities, competencies, styles,

traits and states that are sought and developed *for leadership*. Over the centuries,

thousands of philosophers, researchers, practitioners, and writers of military,

political, human drama, and more have offered theories and models which in

thousands of books, education programs and training workshops purport to

improve leadership decision making and performance. For dynamic complexity,

few of these are relevant, and none alone is sufficient for the new era of business

and the thinking approaches it requires. As Peter Drucker noted[10] the new

knowledge worker requires a new cognitive and social tool kit.
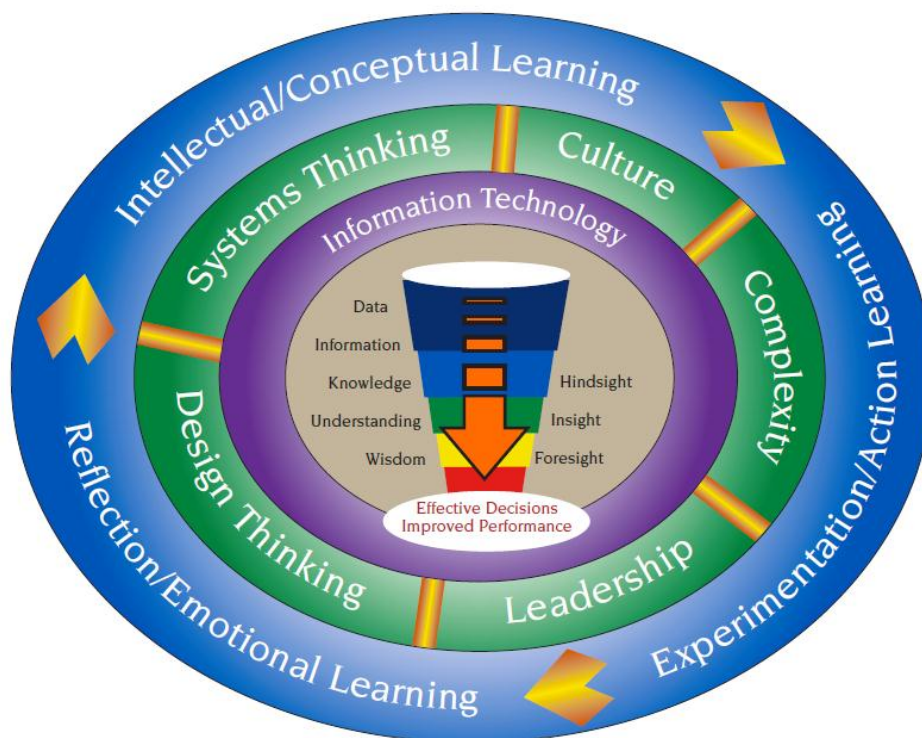

The Model behind the Program

Based on the above premise, we present a model[i] which underlies the

executive education program for making effective decisions for improved

performance in dynamic complexity. The model depicts a multi-layered approach to

executive education. It displays how the ability to rapidly assimilate, sort through,

and comprehend vast amounts of data/information in order to make the right

decisions depends on approaches to learning, knowledge of critical concepts

particularly systems thinking as a mindset/filter, and knowledge of enabling IT.   It

constantly asks the participant to recalibrate and adjust to unforeseen

circumstances and to corporate assaults on the status quo, as argued by Clayton

Christensen.[1]

---

[i] © 2014 Systems Wisdom

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Architecture of the Model

The architecture is depicted by concentric circles (Figure 2). The outer circle is the approach to learning based on immersive models[11]. The second circle consists of appreciating five relevant and critical concepts: complexity, systems thinking, design thinking, leadership and organizational culture. The third circle concerns the smart integration of the latest enabling information technology in support of decision making.   These enclose the metaphoric generative learning[12] funnel which provides a pathway to effective decisions for improved performance.

Figure 2. Model for Effective Decisions for Improved Performance

Immersive Learning Models

The executive education program is grounded in engaging participants in three immersive learning models. Rather than abstract cases, learning is directed to specific challenges experienced in the respective organizations of the participants.

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Conceptual/intellectual learning focuses on the cognitive processing of information, applying types of reasoning approaches, recalling stored images and information, and relating ideas, images, patterns, and structures.   It also concentrates on conceptualizing and hypothesizing why situations or events occur and how they work.

Experimentation/action learning concerns how and where new hypotheses and theories are tested. This kind of learning is dynamic, active, involves taking risks, making experimental choices or actions, receiving feedback from others, failing then retesting.

Reflection/emotional learning which is central to the thinking and learning process, pays attention to the emotional content and context of participants' experiences in order to connect these to cognitive and active learning.   It allows learners to think through their experiments and consider emotions and meanings (e.g., attitudes, biases, resentments) in addition to incorporating traditionally relevant facts and sanitized results.

<u>Appreciation of Relevant and Critical Concepts</u>

The program presents through discussion, team, and individual exercises, five concepts. Each concept is related directly to specific challenges experienced in the respective organizations of the participants.

Complexity is a special kind of individual or shared cognitive experience in response to a problem or situation where many parts interact with each other in multiple ways and where the relationship between cause and effect can only be discerned in retrospect, but not in advance.   It is not apparent how or to what extent these activities are interdependent; and the environment to a decision maker

© 2014 Systems Wisdom LLC

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

appears ill-structured, dynamic, and uncertain.[13] Dynamic complexity emerges

when what is experienced in the current reality conflicts with one's previously

established cognitive map of expected patterns, structures and outcomes. In such

situations, a person may experience an inability to fully recognize, understand, feel

control over or do something productive.

 Systems thinking is a framework or lens for seeing, inquiring about, and

understanding the world.[14] It is an alternative to the predominant scientific and

analytic framework where problems can be mechanically simplified and reduced in

order to find clarity and to determine prime causes which when repaired or

replaced generate solutions. In the *Decision Loom* (pp. 148-149), Barabba[7] argues

that the framework/lens acts as a predisposing mindset; it affects (facilitates or

distorts) for an individual or group how data, information and knowledge are

understood as they move through the funnel. When applying a systems thinking or

systems view of the world, one is oriented not to divisible or structured disciplines

or to powerful or central parts, but to whole, interconnected and socially organized

systems. Such systems are purposeful and have purposeful parts, all of which are

contained in even larger purposeful systems. Systems thinking places concern on

the way parts of a system interact, and, most importantly, with the conflicting or

supporting purposes of the parts, the system, and the systems that contain it. When

viewed through a system lens, complexity is a system of interacting problems and

opportunities. Dynamic complexity concerns two seemingly opposable

perceptions: holding worldview assumptions of a traditional linear, mechanistic

approach that promotes understanding by reducing problems into manageable

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

chunks, versus the evidence in the current reality where problems are dynamic,

interactive, and defy reduction.

Design thinking is an approach and an action methodology for intervening in

a problem or situation. It is to the systems approach as continuous improvement is

to the scientific approach.[15] Design is a process that applies a different reasoning,

and requires the ability to question prior or existing assumptions regarding the

ultimate state to be achieved. Design thinking and design methodologies provide

tools that specifically apply to complex contexts and to complexities.   Rather than

solving, design methods seek to dissolve a problem by looking beyond the

constraints and assumptions of the immediate problem situation as defined. Design

thinking makes use of the methods, techniques and tools of traditional clinical and

research approaches, but uses them synthetically rather than analytically.

Outcomes are creative and lead to innovative optimization of the whole rather than

merely optimized parts.

Culture refers broadly to behavior, meanings, reactions, and values, norms

working language, systems, symbols, beliefs and other elements by those who are

part of it. Depending on the perspective, culture includes civilizations, communities,

ethnic, religious and societal groups, and social and organizational groups. It can

also include aspects and sub-groups such as a consumer culture, collective versus

individual culture, and gun culture. Culture stands in the center of a process of

change including a change in thinking and learning. For this reason it has generated

metaphors such as organizational DNA, default setting of values,[16] default decision

system, cement that glues people together, and shared mental image.

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Understanding how culture interacts with decision making and performance in

complexity and how a positive and innovative culture is a strategic enabler (and vice

versa) are critical concepts. The ability to fit into a complex and fast-moving social

network is a key attribute of social intelligence, competitive fitness, and advantage.

Leadership attributes enable anticipation, recognition, and coping with

sudden disruptions and navigating complexities. Attributes include cognitive

capacities, behavioral abilities and styles, and emotional characteristics and skills

that support early pattern recognition, avoidance of traps, and controlling/coping

with and managing the emotional and stressful experiences of complexity.

Leadership attributes interact with relevant skills, accessing experience, knowledge

and understanding of the situation, practical wisdom and sound judgment.

Attributes are partly trait-based which means they can be measured with

standardized assessments and that those who possess them should be sought for

positions where complexities are anticipated; and they are state-based which means

learning and mentor-based and team-based environments can facilitate

development through an executive education program.

<u>Knowledge of Enabling IT</u>

New interdisciplinary technologies to assist with complexity in an

increasingly nonlinear and rapidly changing world are being developed. The list of

those currently being marketed include big data, cloud computing, predictive

intelligence, visual decision modeling, complex systems modeling, machine learning,

mobility, business intelligence, and more. It is becoming increasingly evident that

the next generation of products, tools, services and information systems will need to

© 2014 Systems Wisdom LLC

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

exhibit two distinguishing features: one is a set of capabilities and behaviors that

reflect built-in intelligence and the other is a set of capabilities and behaviors that

are collaborative and integrated to amplify their overall effect. Technology with

both sets of features will be more user-friendly, capable, effective and adaptive in

responding to the needs and challenges of complex, changing and unpredictable

environments. The answer is an integrative framework that enables effective

interaction among these technologies to allow solutions to emerge. All knowledge

can be dynamic, changing, and adaptive to new problems.

Aviation provides a relevant model. The aviation vision is for future flight

deck systems to include systematic incorporation of "integrated displays and

interactions, decision-aiding (decision-support) functions, information management

and abstraction, and appropriate human/automation functional locations."[17] It is

possible, therefore, to create management dashboards that exhibit similar

characteristics. Thus, future intelligent IT systems will sense internal and external

threats, will evaluate them then they will provide key information to facilitate timely

and appropriate responses. These advantages provide the pilots in the cockpits of

the new IT to recognize relevant and critical patterns, enabling them to discern

meaningful trends and changes from noise.

Generative Learning Funnel

The final architectural component of the model is the *Generative Learning*

funnel. *Generative* refers to a learning process that integrates current knowledge

with experimentation and open-mindedness of new ideas that encourages

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

individual and team creativity. Peter Senge[12] noted that "generative learning

enhances our capacity to create [a way out]."

The program provides a structured experience with novel exercises that

enable participants to recognize, transition through and to optimize the values and

outcomes of five stages: data to information to knowledge to understanding to

wisdom.[18] Moving through these phases is important because a major impediment

of executive education programs is the exclusive focus on organizational learning –

the acquisition of new knowledge. While data, information and knowledge are

important, these are necessary but insufficient. A program must enable the

participants to capture these but also understanding and wisdom. Table 1 presents

the content of learning in terms of definitions, context and effects on decision

making.

Table 1. Learning Content and Effects on Decisions

Learning Content	Is Defined as	Is contained in	Has the following effects on decisions
Data	*Symbols* that represent objects, events, and/or their properties.	Raw Observations **Input**	No significant impact outside its existence
Information	Data that have been *processed* into useful form. The difference between data and information is in usefulness: information is functional; data are structural.	**Descriptions** of **what,** where, when, who, how many **Familiarity of Input**	Increases relational meaning and the probability of choice
Knowledge	Knowledge consists of *know-how* and of a *pattern of information* which makes maintenance and control of objects, systems, and events possible. Concerns *efficiency*: quantitatively doing things right.	**Instructions** of **how** to do **Analysis of Output**	Increases probability of effectiveness of the courses of action

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

Understanding	Understanding concerns the structure of multiple patterns which facilitates and accelerates acquisition of knowledge. Understanding helps to determine relevance of additional data and information.	**Explanations** of **why** and why to do **Synthesis of Output**	Enhances Probable outcome = f (*prob. of choice x prob. of effectiveness*)
Wisdom	Understanding of fundamental and universal properties, patterns and structures of people, things, events, situations, and willingness, as well as the ability to apply perception, judgment, and action in keeping with the understanding of what is the optimal course of action.	Universal principles of reasoning and of disposition **Synthesis of Output**	Increases relative value of the intention situation leading to optimal choice

Table 2 demonstrates how participants transition through the learning

stages. Individuals and teams work on engaging exercises that apply to ongoing

organizational challenges in terms of their usefulness. In addition, at each stage,

exercises demonstrate the application of enabling technologies to improve decision

making.

For example, to seek and acquire the appropriate data about the

environment of an organization requires the appropriate filter or mindset, in

particular, systems thinking. This is followed by application of the situation

awareness (SA) model. SA is the perception of internal and external environmental

elements in terms of time and/or space, the comprehension of their meaning, and

the projection of their status after some variable has changed.[19] From this,

perceptions about current reality shift from tunnel vision to 360 radar scope.

Processing data, for example, via a relational database produces useful information.

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

For example, transitioning from information to knowledge involves acquiring

new knowledge through the integration of information, experience and theory. This

can be appreciated through the Cynefin framework[13] which presents requirements

for different decision contexts. Using systems thinking as a mindset also has

implications as conflicting interests are balanced through the application of

stakeholder theory.

Table 2. Sample Content of the Program

Transitioning from Stages in the Learning Funnel	Program Topics	Enabling Technologies
From Data to Information (Data Processing)	Systems Thinking filter or mindset -Situation Awareness Model (Perceptions) -From Tunnel Vision to 360 Radar Scope -Systems Thinking System Analysis Obstruction Analysis	Data Mining - *Anomaly Detection, Dependency Modeling* Cloud Computing - *Virtualization, PaaS, IaaS, SaaS, Distributed Cloud* Grid Computing - *Grid Workflows, Data Vault Modeling, Multitenancy* Database Management - *Data Warehousing, Online Transaction Processing* Dimensionality Reduction - *Principal Components Analysis, Feature Extraction* Visualization - *Multiway data analysis*
From Information to Knowledge (Theory and Experience)	Requirements for Different Decision Contexts (Cynefin) Situation Awareness Model (Comprehension and Projection) Stakeholder Theory Influence Diagram Transductive Inference	Supervised Learning - *Classification Algorithms, Decision Trees* Unsupervised Learning - *Nearest neighbor clustering* Structured Prediction - *Bayesian Nets, Logistic Regressions, Time Series, Structural Equation Modeling*

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

From Knowledge to Understanding (Appreciating impact of assumption modification)	Problem Solving Strategies -Emergence -Resilience/Agility -Design Thinking -Decision Support Systems -Crowdsourcing -Network organizations -Co-creating solutions through networks	Tradespace Exploration - Multiple-criteria decision analysis (*MCDA*) Optimization Real Options Analysis Epoch Era Analysis Agent Based Simulation - *Monte Carlo Methods, Game Theoretic Elements, Emergence* Discrete Event Simulation – *Network Simulation* Evolvability Analysis - *Markov Processes*
From Understanding to Wisdom	Cross-Domain Pattern Recognition Individual and wisdom of the crowd	Artificial Neural Networks - *Radial Basis Functions*, *Multilayer Perception* Inductive Logic Programming

Summary

There must be an awakening by executives to the existence and emergence of

a new, unique class of dynamically complex problems for which conventional

formulations, solutions and executive education are sub-optimal and inadequate.

The failure to attain expected results in spite of great effort is to a great extent

attributable to the absence by leadership to distinguish and recognize these types of

problems from those that are normal. While there is much written about such

problems in the management literature, many within organizations remain unaware

of or what to do about them. Worse, many continue to shoehorn old business

models into new problem sets and technology.

In the management sciences, such a characterization covers some essential

aspects of the worlds with which leaders and managers have to cope. Leaders and

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

managers face situations in which the following characteristics are present: (1) it is
not clear which activities are relevant to competitive advantage over others; (2) it is
not certain how or to what extent these activities are interdependent or dependent
upon other factors not yet known or discovered; and (3) the environment to a
manager often appears ill-structured, dynamic, and uncertain. Despite these
descriptions, leaders, consultants and organizations lack the proper perspective and
appropriate competencies to formulate such kinds of problems as well as to invent
creative ways of seeing and perceiving solutions. Therefore, the challenge remains
to recognize this phenomenon and to consider alternative approaches, particularly
in executive education where organizational dynamics affect the pace, direction, and
pattern of relationships, and, therefore, greater competitive advantage.

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

References

[1]From Clayton Christensen: http://www.claytonchristensen.com/key-concepts/.

[2]From Peter Drucker:

http://www.forbes.com/2004/11/19/cz_rk_1119drucker.html.

[3] From Fred Emery and Eric Trist:

http://www.moderntimesworkplace.com/archives/ericsess/sessvol3/GEMTRCAUp

53.pdf.

[4] About strategic blindness:

http://www.nationalreview.com/article/379027/strategic-blindness-conrad-black.

[5]Quy Huy and Timo Vuori: http://knowledge.insead.edu/strategy/what-could-have-

saved-nokia-and-what-can-other-companies-learn-3220#k7ZdIVUebVQarFFd.99 .

[6]From News.Com Australia. See: http://www.news.com.au/travel/travel-

updates/how-pilot-captain-richard-de-crespigny-and-his-crew-saved-qf32-from-

aviation-disaster/story-fnizu68q-1226860221061.

[7]From Vince Barabba: http://www.triarchypress.net/the-decision-loom.html.

[8]From Paul Mason:

http://www.bbc.co.uk/blogs/legacy/newsnight/paulmason/2011/02/twenty_reas

ons_why_its_kicking.html.

[9]Internet Century: From *How Google Works*: http://www.howgoogleworks.net/

[10]Drucker, P. *Landmarks of Tomorrow.* New York: Harper & Brothers, 1959.

[11]Pagano, K. O. *Immersive learning*. Alexandria, VA: American Society for Training &

Development, 2013.

[12]From Peter Senge: http://infed.org/mobi/peter-senge-and-the-learning-

organization/.

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

[13]Snowden, D.J. Boone, M. 2007. A Leader's Framework for Decision Making.

Harvard Business Review, November 2007, pp. 69–76.

[14]Pourdehnad, J., Wexler,E. R. & Wilson, D.V. Systems & Design Thinking: A

Conceptual Framework for Their Integration:

http://repository.upenn.edu/od_working_papers/10/ .

[15]Van Gigch, John. Applied General Systems Theory. New York: Harpers and Row,

1978.

[16]Gharajedaghi, J. *Systems thinking Managing chaos and complexity*, 3rd Edition.

Burlington, MA: Morgan Kaufman/Elsevir 2011.

[17]From NASA: http://www.aeronautics.nasa.gov/avsafe/iifd/.

[18]Ackoff, R. L. *Recreating the corporation*. New York: Oxford, 1999.

[19]Endsley, M.R. The role of situation awareness in naturalistic decision making. In

Zsambok, C.E. & G. Klein (Eds.), *Naturalistic decision making* (pp. 269–283). Mahwah,

NJ: LEA, 1997.

Acknowledgements

Aerojet Rocketdyne's InThinking Network Ongoing Discussion
October 30-31, 2014
John Pourdehnad and Larry Starr – Rethinking Executive Education: A Program for
Responding to Sudden Disruptions Caused by Dynamic Complexity

About the Authors

John Pourdehnad, PhD is a principal consultant at Systems Wisdom, a global consultancy based in Philadelphia. For more than 35 years, he has been a consultant and practitioner in organizational management, using systems thinking as a world view and communicating its implications for management. He has led and been involved with hundreds of strategic projects across the globe helping management teams with the resolution of complex problems. John holds an appointment at University of Pennsylvania where he has taught organizational studies, project management, systems and design thinking, and complex project management at the undergraduate and graduate level. He has worked as an educator/consultant with for-profit and not-for-profit organizations and government agencies. He is a member of the Editorial Board of the journal, *Systems Research and Behavioral Science;* a Fellow of the Da Vinci Institute for Technology and Management in Rivonia Gauteng, South Africa; and recipient of a Fulbright Scholarship to the New Bulgarian University in Sophia, Bulgaria where he helped to create the "Design Institute" for the practice of design thinking using trans-disciplinary teams to cope with complex and intractable problems.

CONTACT: John can be reached by e-mail at john.pourdehnad@systemswisdom.com for additional information about this Ongoing Discussion.

WEBSITE: http://www.systemswisdom.com/john-pourdehnad

Larry M. Starr, PhD is Managing Director and a principal consultant at Systems Wisdom, a global consultancy based in Philadelphia. His consulting has been in strategic management, health care, and higher education—with a focus on use of systems and design thinking and practice to better understand and to solve complex challenges. His management projects have been with for profit, non profit and government groups in areas including strategic start-up, development, and growth. His health care projects have included writing guidelines, position papers, and designing curricula for emergency responders and for use of emergency medical devices. His higher education projects have included designing and building academic degree programs and communities of practice. He retired from appointments at the University of Pennsylvania in 2014 where for 12 years he had been executive director, academic chair and professor of Organizational Dynamics, and accepted an appointment as Program Architect at Philadelphia University to design a new kind of interdisciplinary professional doctorate in leadership. He is on the advisory boards, is journal editorial reviewer, and is the primary author of national education and training guidelines for several academic and professional organizations in medicine, medical education, management, and organizational studies.

CONTACT: Larry can be reached by e-mail at larrymstarr@systemswisdom.com for additional information about this Ongoing Discussion.

WEBSITE: http://www.systemswisdom.com/larry-starr