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Leadership, Contexts, and Learning - Part 1. Leadership Definitions and Themes

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Leadership, Contexts, and Learning

Part 1. Leadership Definitions and Themes

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Abstract

In two parts this paper examines how leadership is understood, taught, and anticipated to be learned in undergraduate, graduate, and executive education programs. Part 1 introduces the challenges of defining leadership then presents three taxonomies or themes representing the prevailing leadership models, theories, and practices. I then introduce a fourth theme derived from a broader understanding of context, particularly differences between challenges that are complicated and complex. This informs an expanded context-definition of leadership for which examples of leadership characteristics and proficiencies from a complex systems perspective are presented.

Part 2 is presented as a separate essay. It discusses the assumptions, expectations and relationships among learners, instructors, context, and content from which teaching and learning approaches have emerged. Pedagogy is most common, andragogy is increasingly appropriate for the changing demographics of higher education, and heutagogy is urged for adult learners in higher levels, particularly doctoral and applied executive leadership learning programs. I then describe leadership curricula and using a *woven strands metaphor* I propose courses appropriate for undergraduate, master, and doctoral leadership programs.

I conclude that integrating the four themes, three teaching and learning approaches, and suggested courses co-produce enhanced understanding of the complex topic of leadership. I also conclude that higher education institutions must understand if they wish to teach *about leadership* or enable participants to *learn and develop competencies and proficiencies of leadership* before they promote the effectiveness of their face-to-face, virtual/digital, and hybrid delivery channels.

Part 1. Leadership Definitions and Themes

Overview

In this first essay, I review arguments about the nature and importance of leadership. I then summarize three prevailing taxonomies or influence themes from which are derived most leadership models and theories. These themes primarily focus on traits, styles, skills, and behaviors the last three of which are commonly presented as competencies. As suggested by Morrill (2007[1]) these themes concern (1) **indirect patterns of influence**, (2) **direct patterns of influence**, and (3) **patterns of relationships** also referred to as **relational leadership**.

Considerations of Leadership

Approximately 18 years ago, during discussion about a proposed new graduate degree program tentatively referred to as the *Master of Science in Non-Profit Leadership* that would be offered in the School of Social Policy and Practice at the University of Pennsylvania, one member of the New Program Advisory Group from the Wharton School of Business questioned in an email to the other committee members the name of the degree (Starr, 2004: 90[2]).

> I would personally opt for substituting 'management' for 'leadership' in the current title. I think leadership is a wildly misunderstood topic, badly researched and much touted among the overpaid executives of the planet as the murky purview legitimating their compensation arrangements.

Learmonth and Morrell (2019[3]) support this argument. They posit that much of the language of leadership and leadership applications within management are self-serving, what they label, "me-dership" the effect of which is "flattering bosses yet flattening workers (p. 5)." This separates those with more significance or importance from their lesser *followers* making it a "smokescreen for concealing the power and inequality between those within the senior hierarchy of most organizations from everyone else" (Knights, 2020: 2)." This hyperbole also contributes to the misleading notion that almost everyone on a team can and should aspire to be a leader (despite the contrary dictum, *there is no I in team*), and anyone with a senior level job description can and should demonstrate leadership. Knights (2020: 4[4]) reports, "Learmonth and Morrell see these as examples of leadership 'being used almost like an aerosol – sprayed over every activity to make it somehow "special"' (p. 20)."

Eminent management scholar James March, author of the classic book, *On Leadership* (March & Weil, 2005)[5], echoed this by writing, "I doubt that 'leadership' is a useful concept for serious scholarship (March & Contu, 2006: 85[6])." Heather Lyne de Ver (2009: 3[7]) wrote similar sentiments:

> Leadership is a concept which is often talked about … and (has) countless works on the concept, (yet) 'the field of leadership studies has not succeeded in

articulating a coherent, paradigm-shifting model or approach that both scholars and practitioners can accept and work with (Jones, 2005: 259[8]).' There is no unanimity as to what leadership means.

Leadership is neither a simple nor well-organized concept and perhaps due to the absence of clarity, the academic literature is enormous and continues to grow (O'Reilly & Reed, 2010[9]; Tourish, 2013[10]; 2015[11]; Alvesson & Spicer, 2014[12]; Learnmount & Morrell, 2016[13]). This is reflected in the "About 1,900,000,000 results" generated when "leadership" is entered into *Google*, and the "About 4,170,000 results" generated from *Google Scholar*. Also growing are efforts to teach and learn leadership within North American colleges and universities as noted in a report from the *Chronicle of Higher Education* by Greenwald (2010, para. 1[14]):

> In the last few years, leadership programs have sprung up in remarkable numbers at colleges and universities across the country. Institutions as diverse as Creighton University, Arizona State University, and Highland Community College, in Illinois, now offer leadership training and opportunities to their students. Some universities and colleges, like Gonzaga and the City University of Seattle, have developed degree programs in leadership, and many more such programs are being planned. It seems that every university Web page and presidential message now highlights leadership opportunities for students at both the undergraduate and graduate levels.

A motivation for those who develop and deliver programs is that leadership education can be financially significant. A 2013 study by the Association for Talent and Development,[15] formerly American Society for Training & Development (ASTD), a non-profit association serving those who develop talent in the workplace with members in more than 120 countries and with 100 U.S. chapters, reported that in the United States (p. 2, para. 1),

> approximately $164.2 billion was spent on leadership development (in 2013). Of this total direct learning expenditure, 61 percent ($100.2 billion) was spent internally. The remainder was spent on external services, which accounted for 28 percent ($46 billion); and tuition reimbursement accounted for 11 percent ($18 billion).

This enormous expenditure is more than triple the *up to $50 billion* estimated by Jeffrey Pfeffer, Professor of Organizational Behavior at the Stanford University Graduate School of Business, in a *McKinsey Report* (Pfeffer, 2016[16]). Regardless of the amount, Zhu and Sharma (2017[17]) cited a follow-up report from *McKinsey* that only 25% of companies surveyed "said their programs are effective at improving performance measurably, and only 8% track the programs' return on investment." Similar results were reported in the *2018 State of Leadership Development report* published by *Harvard Business Publishing* (Clark, 2018[18]) in that fewer than 25 percent of those surveyed presented any measure of impact and among those that did the most common was a satisfaction survey.

Notwithstanding the above, leadership continues to be presented as professionally and organizationally important and desirable. For example, Stephen K. Klasko, MD, MBA, President of Thomas Jefferson University and CEO of Jefferson Health, is described by the university marketing department[19] as possessing leadership education that qualifies him for his appointments (para. 1 and 10).

> Dr. Steven Klasko is a transformative leader and advocate for a revolution in our systems of healthcare and higher education … Dr, Klasko is ideally suited to lead such initiatives, having completed a grant after receiving his MBA from the Wharton School of Business of the University of Pennsylvania on selecting and educating physicians to be leaders of change. His unique medical education program at USF, called SELECT (Scholarly Excellence, Leadership Education, Collaborative Training), is recognized for its focus on choosing medical students based on emotional intelligence and leadership potential.

Supported by this positive leadership education context, in 2016 and in 2019 at Thomas Jefferson University, two new leadership Doctoral degree programs were designed, approved and have admitted students. These programs are hosted in the School of Continuing and Professional Studies (SCPS) which also hosts 19 undergraduate Bachelor of Science degree programs[20] of which four list "leadership" in their name (Table 1). While there is a Certificate in Healthcare Diversity Leadership[21] available from a collaboration of the *Jefferson Institute of Emerging Health Professions (IEHP)* and the *Enterprise Office of Diversity, Inclusion & Community Engagement*, these six in SCPS are the only leadership degree programs at Jefferson which has more than 160 degree programs and 8100 students.

Table 1. Jefferson SCPS Leadership Degree Programs

Undergraduate	Graduate
B.S. in Law Enforcement Leadership	D.Mgt. in Strategic Leadership
B.S. in Leadership in Emergency Services	Ph.D. in Complex Systems Leadership
B.S. in Leadership in Homeland Security	
B.S. in Organizational Leadership	

Prevailing Themes of Leadership

In the Western tradition, leadership is primarily described through three general taxonomies or themes "in which certain relationships and groups influence the thought and action of others (Morrill, 2007: 4[1])." The themes are referred to as indirect patterns of influence, direct patterns of influence, and patterns of relationships. Each is briefly described with their presentation characteristics, how the leadership is acquired, and how context is addressed.

<u>Indirect Patterns of Influence</u>

The first theme, *Indirect Patterns of Influence*, holds the premise that leadership occurs due to the presentation of distinctive thinking, ideas or actions of one individual who provides indirect but powerful influences on the thinking and practices of others. Those receiving this influence are called followers.

Characteristics

Examples of exceptionally well-known leaders in this theme include Mahatma Gandhi, a political and spiritual leader; Steve Jobs, a leader of design and technology; Albert Einstein, a leader of a school of thought in physics; and Vincent Van Gogh, a leader in artistic practice. University faculty, scholars, and management consultants may also be recognized within this theme when they lead thinking among peers and students within an academic and practice domain. Such people may also be referred to as a "guru," originally from Sanskrit which meant a spiritual teacher or master. In the modern use, a guru need not connote anything spiritual; rather, it implies distinctive idea or performance expertise which attracts followers.

Thought/idea/practice leadership is not restricted to certain categories; it exists within many everyday social and organizational groups when a person presents a compelling vision or novel solution for a challenge which attracts followers. Central to the leadership associated with indirect influence is that it is generated from the thinking and actions of the individual; it does not require any formal position of authority or formal institutional support.

Acquisition

Generating leading ideas or practices is commonly attributed to possession of certain cognitive abilities and to certain types of intelligence. Bartels, Rietveld, Van Baal & Boomsma (2002: 237[22]) suggest that while "genetics seem to be in control of the level of intelligence, the environmental influences provide both stability and change to trigger manifestation of cognitive abilities." That environmental influence is important was examined by Friedman (2019: 34[23]) who reported that most successful artists, scientists and researchers "need support from significant others especially during creative breakthroughs … emotional support, unconditional acceptance, a sense of security, and a sense of belonging." Howard Gardner, a thought-leader among those who study thought-leadership in a 1999 interview was asked a question posed by Plato: Are there central traits among thought-leaders? Gardner referred to his 2011 book *Leading minds: An anatomy of leadership* in which he noted the dual requirement of thinking and practices:

> no matter their achievements, (thought) leaders do share a significant number of characteristics including the ability to tell stories that engage others and compel them to feel or act. In order for a story to be effective in the long run, though, it must be "embodied." The individual or institution that bears the

narrative must behave consistently with it. Because if you tell one story but you live another – if you don't walk the talk, to use the vernacular – then the story doesn't have appeal (Kurtzman, 1999[24]).

Brosseau (2013: 16[25]) argues that while thought leadership may be a cognitive ability, it can be taught and learned. In *Ready to be a thought leader?* she posits that adhering to 12 strategies will enable a thought leader to "inspire others with their innovative ideas, turn those ideas into reality, and then create a dedicated group of friends, fans, and followers to help them replicate and scale those ideas into sustainable change." Gibbins-Klein (2017[26]) agrees that thought leadership can be enhanced because it is a skill that can be learned. She suggests seven tactics that can be practiced and that will sharpen thinking and improve thought leadership. Neither Brosseau nor Gibbins-Klein present measures of evaluation such as reliability or validity for their proposed learning of this indirect pattern of influence.

Context

The context of indirect influence refers to the environment which is dependent on situational and temporal characteristics, and boundaries. Amabile (1996[27]), using a set of methodologies, described that creativity and its expression in professional artists, research scientists, and other working adults is dependent not only on personal capacities and thinking but also on the social context. This means an individual may not be considered a thought leader or to have special idea-or-practice influence in one social situation or community, but in a different time or context may be hailed as a previously unrecognized leader who had been prescient. One globally recognized example, Van Gogh (1853-1890), was considered a failure and a madman until after he died. As noted by Furius (1997[28]) writing for the *Society for Humanist Art*:

> Van Gogh was an indisputable genius, utterly, indisputably ignored. He created hundreds of bold, brilliant paintings; only one was sold during his lifetime … (But 60 years later) in the 1950s, '60s, '70s, and '80s, there was a steady average of 20-40 books about him published each year. In 1990, the centennial of his death, the number jumped to 109 … In 1987 his painting "Irises" was sold at auction for $53.9 million — the highest price ever paid for a painting at that time. In 1990 the sale of his "Portrait of Dr. Gachet" set an even higher record at $82.5 million.

Direct Patterns of Influence

A second theme for describing and understanding leadership is referred to as *Direct Patterns of Influence*. This concerns a person's direct role, function and performance within a group or organization and focuses on meeting organizational goals.

Characteristics

This leadership perspective describes performance obligations, responsibilities, and adherence to mutual expectations and goals by a group or organization against which performance is measured. This theme is commonly applied when examining leaders across the broad range of organizations operating as businesses (companies); religious communities; government and military agencies; educational and scientific institutions; non-profit/charitable establishments; and any social/professional team or group where hierarchy, power and authority have impact. Leaders portrayed in this theme shape or direct outcomes and are referred to and may use their job title usually based on their assigned duties and responsibilities in the organization's hierarchy.

Acquisition

Leaders with direct influence are expected to demonstrate certain impact characteristics over followers and to engage in behaviors – some of which may be exceptional – that are valuable for meeting organizational interests and goals. Leaders may possess these due to genetic predispositions, but most scholars accept that they are primarily developed and can be improved by individual or group direct or vicarious social learning (from models at home and in social groups), participating in educational programs, and/or coaching designed to enhance behaviors relevant to meeting organizational goals. These inherent and learned characteristics include personality traits and attributes such as intelligence, self-confidence, determinism, integrity and sociability, referred to by McCrae & Costa (1996[29]) as the "Big 5" personality model. Other researchers have proposed personality preferences and cognitive styles that can be identified using written assessments including but not limited to Emotional Intelligence via the Emotional and Social Competence Inventory (ESCI, Goleman, 1995[30]), Grit (Duckworth, 2016[31]), Myers-Briggs Types (MBTI, Myers & Myers, 1980; 1995[32]) and whole brain cognitive style (HBDI, Allinson & Hayes, 1996[33]).

From an acquisition perspective most direct influence characteristics focus on *skills* such as topic expertise, communication, vision, and charisma; *styles* such as task-oriented, people-oriented, democratic, autocratic; and *behaviors* such as defining purpose and setting ethical standards. One of the earliest of the behavior approaches was referred to as two-factor theory because it suggested leadership was composed primarily of task behaviors and relationship behaviors. This was expanded into the theory of Situational Leadership Skills (Hershey & Blanchard, 1969[34]). The broad set of attributes, knowledge, skills, behaviors, and styles are commonly referred to as leadership competencies.

Ray (2017[35]) presents an argument for project managers and leaders that is representative of the perspective that leadership is a performance competency when she notes, "Leadership isn't rocket science, but like rocket science, it *can* be taught." She also notes "there's a wealth of leadership courses available, online and in the real world which one can take (for free or for a fee) and in which one can study the

techniques that rally teams to success." The wealth of courses can be appreciated by entering "leadership training programs" into *Google* which produces nearly 400,000,000 results. When "university leadership training programs Philadelphia" is entered, *Google* lists approximately 111,000,000 sites. The results include the approximately 60 universities offering leadership and organizational leadership degrees that compete with Thomas Jefferson University for students and executive education customers.

Context

Context in this theme refers primarily to cultural context and is described in leadership contingency theories and in global-cultural leadership theories. These variations are acknowledged to impose different requirements on the direct role characteristics and behaviors needed by the leader. These variations are also used to explain leadership performance that is excellent in one organizational culture but may be less effective or possibly a damaging failure in another. Belchetz & Leithwood (2007[36]) noted:

> that context matters is endorsed by much of the educational leadership literature … (and) is a claim entirely consistent with models of "contingent" leadership, some of them almost a half century old … A broader leadership literature also endorses contextually dependent views of successful leadership through its interest in cross-cultural leadership studies. This line of research aims to detect the effects of different cultural profiles on what counts as effective leadership practice often taking, as its point of departure, the results of Hofstede's (1980[37]) research about such cultural profiles. As Den Hartog, House, Hanges, Ruiz-Quintanilla & Dorfman explain: "In some [national] cultures one might need to take strong decisive action in order to be seen as a leader, whereas in other cultures consultation and a democratic approach may be a prerequisite."

Increasing economic and social globalization, creation of multi-national organizations, and massive and longitudinal global research projects such as the GLOBE Project (2020[38]) have co-produced an explosion of research and discussions about establishing an independent field called cross-cultural leadership studies (Dickson, Den Hartog & Mitchelson, 2003[39]). The conception of context in this theme is limited to culture and is derived from national characteristics such as American individualism and Chinese collectivism.

Patterns of Relationships

A third theme considers the interactive social processes and engagements between the needs and interests of leaders and followers. This referred to as *Patterns of Relationships* and *Relational Leadership*.

Characteristics

Coleman (2018: para. 3[40]) recounting how and why in 1989 a social meeting was arranged between U.S. President George H. W. Bush and French President Francois Mitterrand, noted,

> This "relational" approach to leadership was core to President Bush's values and personality. And in the broader world, relational leadership – the longstanding and almost instinctive cultivation of close personal and professional relationships as an entré to building alliances and partnerships – is common. It's prevalent in politics, where relationships among legislators and community members often lead to compromise, and in business, where trust is such an essential component of partnership.

In this theme, leaders apply moral meaning based on how they treat colleagues and followers which influences subsequent motivation and commitment. Leadership is described in terms of how one applies influence, i.e., the processes that are used to engage in types of collaboration designed to enable others to change their previous thinking and voluntarily adopt another's perspective. Such processes are intended to reach a shared sense of meaning and meet shared/agreed organizational goals. Mary Uhl-Bien (2006[41]) a professor of management who proposed a theory of relational leadership described it as "a social influence process through which emergent coordination (i.e., evolving social order) and change (i.e., new values, attitudes, approaches, behaviors, ideologies, etc.) are constructed and produced (p. 668)." Northouse (2019: 5[42]) a professor of communications describes leadership from this perspective when he notes:

> Leadership ... is a transactional event that occurs between the leader and the followers ... it is an interactive event ... and is concerned with how the leader affects followers and the communication that occurs between leaders and followers ... leaders direct their energies toward individuals who are trying to achieve something together.

However, when relational leadership is applied primarily as a transactional event or when the leader's style is primarily transactional, relationships are often directed toward compliance. In addition, motivation is through reward and punishment often exerted by a leader who stresses and wants to promote authority, control, order, structure, policies and regulations. When an organization is engaged in a formal change program or when the organization needs leaders to promote organizational change capacity, however, this style is not a good fit because transactional processes do not engender or demonstrate trust between followers and the leader (Yasir, Irshad, Mohamad & Khan, 2016[43]). Transactional leadership is also "not a good fit for places (situations or problems) where creativity and innovative ideas are valued."[44] Instead, organizations may seek a leader with a transformational style which supports trust, engagement, and produces positive change in the followers and in the leader.

Acquisition

Edinger (2013[45]) holds the position that acquisition of relational leadership like direct influence is a competency that can be learned.

> We all know of examples of leaders who excelled in one environment and failed in another, as well as leaders who were average in one organization and proved spectacular in a new role. One of the factors explaining this phenomenon is that leadership is a relational skill; it is about how you interact with others. Sometimes we relate well, and other times not so well, so how we relate is always having an impact on our leadership effectiveness.

In *Relational Leading*, Hersted & Gergen (2013[46]) offer advice for how to acquire relationship skills based on thoughtful discussions and experiential workshops. They noted the importance of engaging in "questioning, provoking, answering, agreeing, objecting dialogue rather than dialogue that 'finalizes, materializes, explains, and kills causally, that drowns out another's voice...' (p. 11, from Cunliffe & Erikson, 2011[47])."

Leader-member exchange (LMX) theory was conceived as a competency-based relationship between a single leader and specific followers who are part of the "in-group" or the "out-group." As LMX theory matured, the nature of the relationship skills were considered to mature via stages from low-quality to higher quality exchanges; from specific transactions where both parties often tally the number of favors and reciprocities owed to relationships outside the employment environment; and from simple dyads or pairs of relations to systems of interdependent dyadic relationships, or network assemblies (Graen & Uhl Bien, 1995[48]).

Context

The theories and models within the theme of *Patterns of Relationships* like *Direct Patterns of Influence* tend to view context as a cross-cultural variable with culture focusing on national cultural characteristics. Research, therefore, compares across cultures and argues, for example, that for LMX theory, relationships involving organizational citizenship behaviors, justice perceptions, job satisfaction, retention, and leader trust are better supported and generally higher in Western countries than in other countries (Rockstuhl, Dulebohn, Ang & Shore, 2012[49]).

Military research which can also apply to police, fire, and emergency medical service responders focuses on context as military culture and notes the influence of norms and policies promoting adherence to mission-based performance outcomes, defined authoritarian structures, and formal social relationships. For example, in a publication from the National Research Council (2014[50]), it was noted:

> ...the fundamental understanding of social interactions within military units ... will position the Army to develop *contextual leaders* who effectively interpret,

assess, and mold the social interactions within the unit to influence the desired social context, capitalize on opportunities as they evolve, and ultimately, enhance unit performance: the extent to which a unit successfully completes its assigned missions.

Table 2 presents the three prevailing themes and examples of the associated leadership theories derived from them.

Table 2. Prevailing Themes and Theories	
Leadership Themes	**Leadership Theories**
Indirect Patterns of Influence (heroic traits, leading ideas and practices for which there are followers)	▪ Great Man ▪ Cardinal and Central Traits/Intelligence
Direct Patterns of Influence (leadership traits, behaviors, styles, and skills, referred to as competencies that influence followers)	▪ Big 5 Personality Factors (*aka*, OCEAN Theory) ▪ Emotional Intelligence; Grit ▪ MBTI and HBDI Styles ▪ Task/People Behaviors; ▪ Situational Leadership; Contingency Leadership ▪ Competency-Based
Patterns of Relationships and Relational Leadership (leader-follower social processes, needs and interests)	▪ Path-Goal ▪ Leader-Member Exchange (LMX) ▪ Relational Leadership Theory ▪ Transactional ▪ Transformational ▪ Authentic ▪ Servant-Spiritual ▪ Followership

Underlying Linearity of Competencies

The three themes represent the prevailing approach to how leadership is understood and taught within higher education programs. Fundamental to each is that leadership has an underlying linear causality which means there is a presumed predictive formula or equation, e.g., *Leadership = A + B + C*, where Leadership is the outcome and A, B and C are the additive core elements. For example, Bean (2015: 12[51]), author of *Lessons in Leadership Intelligence* (3rd edition), combines the themes of indirect and direct pattern:

> … it seems obvious that leadership is a set of functional processes that can be performed by one or more persons ... and that there is a **leadership equation**: **Leadership = Energy + Attachment + Direction + Execution + Resources + Strategy**.

Bean's linear leadership perspective, which is widely shared, is that because the parts "add up" to leadership, engaging in training that increases, improves and develops (also called **optimizing**) each element separately will improve the whole of leadership. This is also the underlying assumption of the Society for Human Resource Professionals (SHRM) which promotes the SHRM Competency Model (2008). SHRM recommends this model for HR professionals when selecting and developing leaders across organizations. The model is explained on the SHRM website[52] as follows:

> Leadership competencies are leadership skills and behaviors that contribute to superior performance. By using a competency-based approach to leadership, organizations can better identify and develop their next generation of leaders … A focus on leadership competencies and skill development promotes better leadership … When selecting and developing leaders, HR professionals should consider the competencies that the individual possesses and compare those to the ones that need further development for success in a leadership role. By looking at his/her current competencies and comparing those to the skills necessary to fill a leadership position, organizations can make better informed decisions in hiring, developing and promoting leaders (Introduction, para. 1).

While the prevailing approach is that leadership is the sum of competencies, there is no agreement about the number that leaders should possess. Bean's (2015)[51] leadership formula identifies 6 competencies. Google, Inc.[53] has 7 core competencies for their leaders. The SHRM Model (2008[31]) argues that there are 9 core competencies relevant. The US Department of Agriculture,[54] referring to Farm Service Agency leaders, presents 28 core competencies.

Fourth Theme: Navigating Differing Contexts

I argue that a fourth theme should be added to the teaching and learning of leadership informed by a broader understanding of context, particularly differences between situations, problems and opportunities that are complicated vs. complex. This fourth theme, *navigating differing contexts,* requires shifting to a different mode of thinking or mindset which informs complex problem formulation and intervention, enables application of different methodologies, and offers new tools for leadership practice and research. Examples of this theme appear in the emerging literature describing the 4th Industrial Revolution (Schwab, 2012[55]), Education 3.0 (Keats & Schmidt, 2007[56]), Health 3.0 (Nash, 2008[57]), and healthcare of the future (Klasko, Shea, & Hoad, 2016,[58] and others[59]). As Peter Drucker (1959[60]) anticipated approximately 60 years ago, leaders today and going forward require a new cognitive tool kit.

Within the three prevailing themes, the words context, environment and culture are commonly held to have similar meanings and are used interchangeably. Furthermore, context is described as both an input - one of several influencing variables that predict leadership performance – and an outcome –a variable that

leadership behavior can influence and change. But, the concept of context and its implications on leadership decision making and performance can be understood and examined not merely as an input or outcome variable among others, but as a fundamental, epistemological lens or framework.

Everything a leader thinks about and does is influenced by the situation in which it occurs. The whole situation that surrounds and informs a choice or action is its context. In this perspective, operating in a military, academic or global culture; threats of illness and death during a global pandemic; shifting from face-to-face to online learning; and economic depression where approximately 40 million people quickly become unemployed become sub-systems and categories within the broader concept of context. Northoff (2013: 77[61]) noted, for example, "the concept of context is here understood in a wider way that includes different kinds of contexts, social, cultural, mental, and bodily. Culture is then one specific instance of context-dependence."

Neuroscience research (Ibanez & Manes, 2012[62]) shows that context shapes all processes in the brain, from visual perception to social interactions which means context impacts most aspects of personal and professional experience including word and object recognition and meaning and learning abilities. Context helps people to understand cultural, social, philosophical and political ideas, as well as actions and movements that occur when thinking, speaking, writing and performing. Context is important in behavior change, information and knowledge translation, implementation of new practices, and organizational improvements all of which are important to leadership.

Snowdon & Boone (2007[63]) proposed the Welsh word *Cynefin,* (pronounced Kun-Ev-In) meaning *habitat* to describe distinct contexts in which a problem or opportunity exists. They also proposed an interaction of two important leadership concerns. One is that the challenges faced by a leader should first be examined and understood in terms of its context. Second, is that leaders must be reflective of how they frame their problems and how they make decisions when the context changes. This means instead of asking, "What should I do about this problem?" the leader should ask, "In what kind of context is this problem located?" and "What kind of problem is this?" This is a change in the fundamental framework for ordering perceiving and understanding reality. Answering these context questions helps to inform how to approach the problem and how to select a method of intervening, i.e., a course of action.

Based on the Cynefin framework, the three prevailing leadership themes would be primarily located within the context of ordered space, and the class of problems that can be addressed would be **simple** and **complicated** as presented in Figure 1. In this concept of context which assumes a reasonable degree of structure and analytic predictability, leadership can be understood and explained by conventional traits, behaviors, styles and competencies.

Figure 1. Cynefin Framework (from Snowdon & Boone, 2007[60])
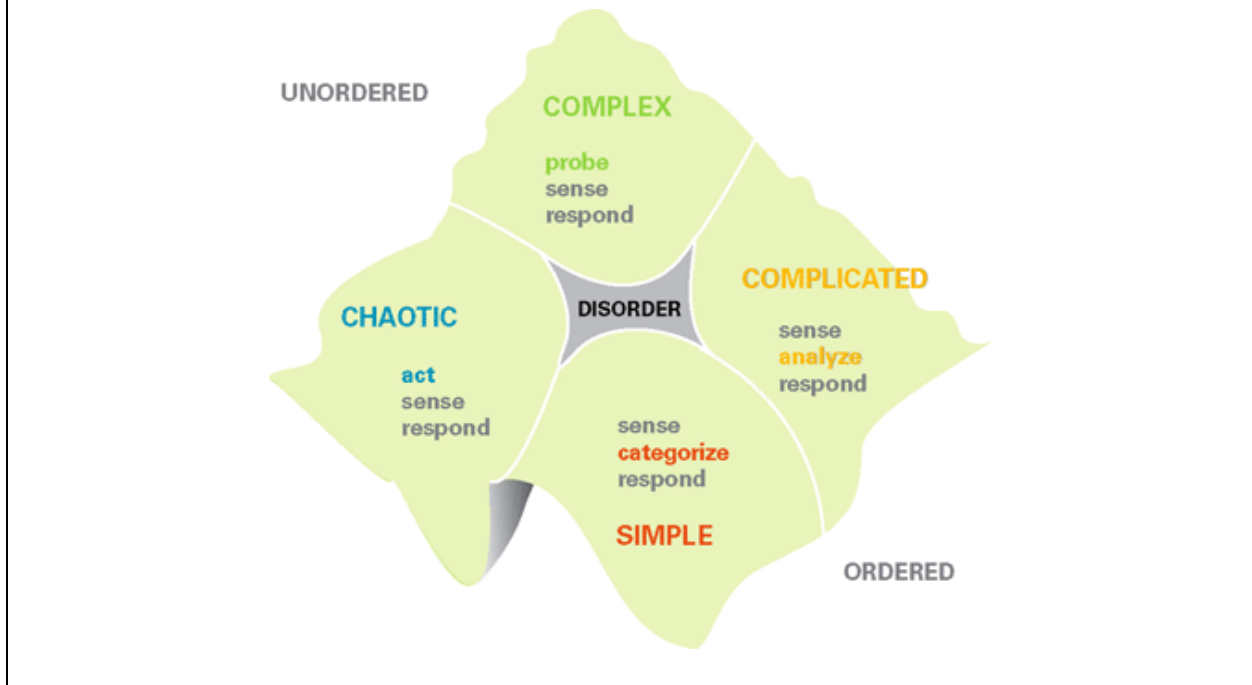
In a **simple context,** the cause-effect relationship within a defined problem is believed to be clear such that an outcome or behavior is directly linked to certain causes. The leader senses and defines the problem, categorizes the cause and effect, then responds using benchmarking and best practices. The expected outcome would be a solved problem.

In a **complicated context**, a problem may have many parts and subparts so causes and effects may be difficult to see because they are indirectly linked. In this context a leader defines the problem as clearly as possible, identifies essential and desirable objectives, then seeks a solution that meets those objectives and solves the problem. While the leader may not personally know how to define or solve the problem, he/she knows that others – often experts and those with more experience in the organizational hierarchy - can do this. The common approach is to first reduce or simplify the problem into small parts in order to determine the root cause then to apply good practices including research and analytic methods that will lead to a solution.

While problems in an ordered complicated context continue to be presented, an increasing number of leadership challenges are occurring in unordered **complex contexts** and occasionally **chaotic contexts**. Discerning the context in which a problem or opportunity is located becomes essential for proper problem formulation. Snyder (2013)[64] refers to a comparison (Table 3) between following a recipe, sending a rocket to the Moon, and raising a child (originally from Glouberman & Zimmerman, 2002[65]).

Table 3. Simple, Complicated and Complex Problem Differences		
Simple/Obvious: Follow a Recipe	Complicated: Send a Rocket to the Moon	Complex: Raise a Child
Recipe is essential	Formulae are essential and critical	Formulae have limited application
Recipes are tested to assure easy replication	Sending one rocket increases assurance that the next will be OK	Raising one child provides experience but no assurance of success with the next
No particular expertise is required. But cooking expertise increases success rate	High level of expertise in a variety of fields are necessary for success	Expertise can contribute but is neither necessary nor sufficient to assure success
Recipe produces standardized product or outcome	Rockets are similar in critical ways	Every child is unique and must be understood as an individual
The best recipes give good results every time	There is a high degree of certainty	Uncertainty of outcome remains
Optimistic approach to problem solving is possible	Optimistic approach to problem solving is possible	Optimistic approach to problem solving is possible

Following a recipe is considered a simple problem because there are proven and best practices. A complicated problem is sending a rocket to the moon - recall Ray, 2017[43] described on p. 7 of this paper who wrote that "leadership like rocket science can be taught" - because it required a high level of expertise in varying fields. A complex problem is raising a child because each child is unique, each has his/her own interests and purposes, so there are no expert parents. Snyder (2013: 8)[62] wrote,

> Educational initiatives, and in fact the social sciences more broadly, often attempt to dwell in the realm of the complicated when in fact they are operating in the realm of the complex … Experts devise a policy targeting a single or relatively small set of problems and launch it, believing (or at least hoping), that the solution they are advocating is whole, complete, widely replicable and easily actionable. All that is then left is to wait for the results and see if the metaphorical rocket reaches the moon. Iterative feedback is often limited in this approach, and flexibility is not often a high priority in the initiative's design. What these miss are that complex problems cannot be adequately captured via such linear approaches.

Problems and opportunities that exist in unordered contexts have been referred to as complex, chaotic, but also *wicked* (Churchman, 1967[66]; Rittel & Webber, 1973[67]) and a *mess* (Ackoff, 1974[68]; 1981[69]). For such challenges, Rittel & Webber and later Conklin (2006[70]) described a set of characteristics (see Table 4).

Table 4. Characteristics of Complex (Wicked, Mess) Problem Contexts
1. This kind of problem is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize. 2. There is no definitive formulation of the problem because due to inter-dependencies the problem is not understood until after the formulation of a solution. 3. Solutions are not right or wrong or true-or-false, but better or worse. 4. Solutions are emergent; there are no experts who can solve this type of problem. 5. Every complex, wicked or messy problem is essentially novel and unique. 6. Every solution is a 'one shot operation.' 7. This type of problem has no given alternative solutions.

If a leader fails to recognize that a problem's context is complex or chaotic and mistakenly applies traditional (simple or complicated) improvement methods and tools, these efforts will likely fail and can make the problem worse. This because a problem in a complex context is qualitatively different from one that is in a complicated context. As explained by Goldstein, Hazy & Lichtenstein (2010: 3[71]).

> Until recently the differences between complicated and complex were not well understood; as a result, they have often been treated in the same way, as if the same process should be used to "deal with" situations (or concepts) that are complicated *or* complex. Business schools justified this by treating organizations as if they were machines that could be analyzed, dissected, and broken down into parts. According to that myth, if you fix the parts, then reassemble and lubricate, you'll get the whole system up and running. *But this is exactly the wrong way to approach a complex problem.*

The framework or mindset of leadership which informs the three prevailing themes holds the premise that the context in which a leader functions is reasonably well-ordered and well-structured although problems may be very complicated. It follows that students of leadership should learn important leadership competencies identified by validated research that can be added to their performance toolbox. The challenge to this mode of thinking is that the context in which organizations, followers and leaders must function is increasingly unordered and ill-structured, the underlying relationship of elements is increasingly nonlinear, and the proficiencies

required by leaders in this new context are not adequately addressed by the competencies in the prevailing themes.

To address the fourth theme requires a paradigm shift. As described by Kuhn (1962: 121[72]), when the premises within a prevailing framework fail to adequately explain phenomena, a new framework or paradigm is sought. He wrote, "Though the world does not change with the change of paradigm, the scientist afterwards works in a different world." The concept of a paradigm shift has been used in numerous non-scientific contexts to describe a profound change in a fundamental model or perception of events. Yawson (2016: 262[73]) describes the clash of paradigms affecting leadership research:

> The world is operating in a century of complexity, unprecedented interconnectivity, interdependence, radical innovation and transformation, and unforeseen new structures with unexpected new properties … These problems are characterised by changing requirements and solutions that are difficult to recognise because of complex interdependencies … These call for a different approach to how leadership research is conducted.

> There is a battle for the soul of leadership … a profound divide in philosophical understandings – in the deep meanings – regarding what constitutes the nature of leadership and the research enterprise around it (Uhl-Bien and Ospina, 2012[74]). This is because they have developed from contrasting philosophies of science, that is, contrasting answers to the ontological and epistemological questions that reflect the assumptions researchers bring to their work (Uhl-Bien and Ospina, 2012[56]). The ontological justification of the linear approach to leadership has been the dominant premise on which leadership research has been conducted. However, starting from the early 1990s, there has been an emerging paradigmatic shift to the nonlinear epistemology of practice and the effect on 21st-century organisations.

Stacey (2012[75]) suggests that a paradigm shift is required because of four premises derived from the conventional approach to leadership that fail when a leader is confronted with complex contexts. First is the assumption that a leader should act as an agent of action and change. This leads to a further assumption that a leader should objectively observe their organization and use the tools of rational analysis to select appropriate objectives, targets, and strategic visions.

Second is the belief that formulating strategies of change then implementing actions will achieve those objectives, targets, and visions. Third is that adopting rational monitoring procedures will enable the leader to know what is happening. Fourth is that using internal resource analysis will enable the leader to select directed outcomes for their organization.

While each assumption may lead to effective outcomes for problems and situations that are ordered and well-structured, when the context is ill-ordered,

unstructured, and complex, following *any* of these is unrealistic, inadequate, and a waste of effort and resources. From the perspective of complex and chaotic contexts, the assumption that a leader can formulate and apply any linear strategy or plan that will control or influence others toward a specific goal is considered naïve. Stacey (2012: viii[58]) summarizes the challenges this way:

> Since (leaders) have to confront uncertain futures, that is, since they cannot predict the long-term consequences of their actions, and since they cannot control the interplay of intentions, it follows that leaders and managers cannot choose the future of their organizations, no matter how much planning and envisioning they do.

How a leader "deals with" a problem is predicated on the fundamental assumption made by the person about the nature of the context, i.e., the degree to which the situation is perceived to be orderly and predictable or not. The prevailing approach to leadership is reductionistic, i.e., all problems can be simplified, and all problems can be addressed by scientific research, i.e., evidence-based knowledge can be effectively applied. Yet, both premises fail when the problem context becomes complex or chaotic. An example of this kind of situation was portrayed in a narrative about a public service leader confronted with a horrific event in 1993 in suburban Chicago (Snowdon & Boone, 2007: 69[60]).

> In his dual roles as an administrative executive and spokesperson for the police department, Deputy Chief Walter Gasior suddenly had to cope with several different situations at once. He had to deal with the grieving families and a frightened community, help direct the operations of an extremely busy police department, and take questions from the media, which inundated the town with reporters and film crews. "There would literally be four people coming at me with logistics and media issues all at once," he recalls. "And in the midst of all this, we still had a department that had to keep running on a routine basis."

There is no way to simplify and no evidence-based approach to address the dynamic nature of this kind problem and its emergence in the context of this specific suburban community. There is no personality trait or competency derived from the prevailing three themes of leadership that can explain how leadership should "solve" this kind of problem. Indeed, rather than solve, researchers suggest that leaders "navigate" complex problems. This is informed and drawn from the language of airline pilots who must have a dynamic leadership proficiency that Langewiesche (2019: 38[76]) refers to as "airmanship."

> "Airmanship" is an anachronistic word, but it is applied without prejudice to women as well as men. Its full meaning is difficult to convey. It includes a visceral sense of navigation, an operational understanding of weather and weather information, the ability to form mental maps of traffic flows, fluency in the nuance of radio communication and, especially, a deep appreciation for

the interplay between energy, inertia and wings. Airplanes are living things. The best pilots do not sit in cockpits so much as strap them on.

The description by Langewiesche notes that a person with a set of specific proficiencies is essential to effectively navigate the complexities of flying a modern airplane. In a context of organizational complexity, however, it often requires a leadership team so the criteria for selection become critical. As presented in Table 4, **there are no experts** who can solve complex and chaotic problems. In addition, **there are no best practices** because effective solutions are emergent, and every complex, wicked or messy problem is essentially novel and unique. One of the most common phrases uttered when immersed in this kind of problem is, "We have never seen anything like this before."

This means that an enterprise that assembles a leadership team to address this kind of problem must be thoughtful about its members and their proficiencies. Too often an "expert" model is applied which for complicated challenges may be appropriate, but for complex situations can be *misleading and misinforming*. In complexity, leadership should not be based on role expertise, but rather on cognitive proficiencies and capacities, i.e., those who hold the requisite mindset to navigate this kind of challenge. Regarding the 2019 Coronavirus pandemic which is engulfing many organizational systems as this paper is written, Nitin Nohria (2020[77]) Dean of Harvard's Business School wrote,

> Companies shouldn't rely solely on a specialized risk management team to see them through a sustained crisis … (Rather) companies need a global network of people drawn from throughout the organization that can coordinate and adapt as events unfold, reacting immediately and appropriately to disruptions such as lapses in communication inside and outside the organization and losses of physical and human resources.

D'Auria and De Smet (2020[78]) describing leadership characteristics and processes for the coronavirus crisis agree with this and wrote,

> Once leaders recognize a crisis as such, they can begin to mount a response. But they cannot respond as they would in a routine emergency, by following plans that had been drawn up in advance. During a crisis, which is ruled by unfamiliarity and uncertainty, effective responses are largely improvised. They might span a wide range of actions: not just temporary moves (for example, instituting work-from-home policies) but also adjustments to ongoing business practices (such as the adoption of new tools to aid collaboration), which can be beneficial to maintain even after the crisis has passed. What leaders need during a crisis is not a predefined response plan but behaviors and mindsets that will prevent them from overreacting to yesterday's developments and help them look ahead.

Compare this to the approach and language from a university memo sent to faculty about their Covid-19 leadership team and thinking processes:

> Teams across the enterprise are collaborating to determine the best path forward, **including experts** from safety, infection control, facilities management, human resources, academic and health operations, communications, and more … Our initial priorities are to … welcome students to campus in the fall, and restart our broader research operations, **all utilizing best practices** for maximizing safety.

As the reports of the incidence of the novel coronavirus leading to Covid-19 increased in Asia and Europe, members of the Jefferson Complex Systems and Strategic Leadership doctoral programs anticipated the impact in the U.S. generally and at our university and education programs specifically. On March 5, a paper was written by program faculty and PhD students to help explain the nature of anticipated complexities and interactions.[*] Following the University announcement on March 12 that all classes would be held online, a Doctoral Response Management Team (DRMT) was conceived and on March 18 was assembled. Members were selected based on their complex leadership capacities so included doctoral students, faculty, and professionals from within and from outside the University. To generate different perspectives, their experience came from health care, human resources, education, information technology, strategic communications, organization development, clinical psychology, applied systems thinking and practice, and systems collaboration. These members assembled their own networks which expanded the input and opportunities for emergent and novel ideas to be created.

All members of the Leadership Doctoral community were contacted to assess personal and professional status, and to determine if individual assistance was needed immediately or if recommendations for support were necessary. This was followed by an online stress management education program for the doctoral community. Students and faculty were encouraged to write Covid-19 explanatory and recommendation papers which were uploaded to the Jefferson Digital Commons. A weekly online colloquium was held on topics of leadership related to the Global Pandemic. Acting as a complex adaptive system, the DRMT and community continue to effectively navigate the complexities while supporting their mutual and individual interests and needs.

Table 5 compares differing contexts by examining seven categories: structure and order, mode of thinking, attribution and understanding of cause, approach to

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[*] Pourdehnad, Starr, Koerwer & McCloskey (2020). "Disruptive effects of coronavirus" was uploaded to the Jefferson Digital Commons: https://jdc.jefferson.edu/jscpscp/ and was selected as an editorial and published in the English-language newspaper, *The Korean Times* in Seoul:
Part 1: http://w ww.koreatimes.co.kr/www/opinion/2020/03/137_286614.html;
Part 2: http://www.koreatimes.co.kr/www/opinion/2020/03/137_286820.html

problems, relationship among elements, and methods of reasoning. The implications of these include a different understanding of leadership and of leadership topics.

Table 5. Problem Characteristics in Differing Contexts		
	Context	
	Ordered	Unordered
Characteristics	Complicated	Complex
Structure and Order	**Well-Structured and Predictable**: Leadership problems can be clearly defined, best choices identified, and solutions can be implemented.	**Poorly Structured and Messy**: Leadership problems may not be defined in advance; only afterward. Events and influences are probabilistic, and solutions are revealed by discovery.
Mode of Thinking	**Analytic/Analysis**: An explanation of leadership is derived from an explanation of the role of deconstructed parts that add up to leadership.	**Systemic/Systems**: An explanation of leadership is derived from explaining interactions within and between the organizational system from which it emerges.
Explanation of Cause	**Cause and Effect**: Leadership is context (environmental)-free, linear, additive with predictable effects (outcomes) following from well-defined causes.	**Producer-Product**: Leadership is context (environmental)-full/rich, non-linear, non-proportional, not predictable with co-produced and emergent characteristics.
Approach to Problems	**Reductionism**: The belief that leadership is in the person and can be reduced to a research-based set of traits, styles, behaviors, situations, and core competencies.	**Expansionism**: The belief that leadership is dynamic and emerges from the interaction of many influencing elements including from external/containing systems.
Relationships of Elements	**Linearity and Proportionality**: A change to one element of the input/cause creates a direct change in the output/effect at a constant rate that is predictable and sequential.	**Nonlinearity and Nonproportionality**: Changes made to the input/cause are not proportional to the output/effects and may appear unpredictable, nonlinear and counterintuitive.
Methodology and Reasoning	**Research**: Science and evidence-based thinking using inductive and deductive reasoning can solve a problem by generating a choice that meets the objectives and creates an optimal solution.	**Design**: Design, creativity and innovation using abductive reasoning can lead to emergence of a novel configuration that can dissolve the problem and create conditions where the problem cannot occur.
Leadership Topics	**Conventional** knowledge and practices including traits, skills, competencies, styles, behaviors and other analytic and linear models.	**Complexity-informed** knowledge and practices including multiple systems approaches, complexity leadership and other emerging non-linear models and practices.

Leadership Definitions and Characteristics

While the three prevailing leadership themes are presented separately, the most common descriptions of leadership – popularly and scholarly - are appreciated by their addition although one theme may be weighted higher than another. An outstanding leader may be recognized, for example, by presenting a leading vision and demonstrating goal-based competencies and engaging collaboratively with followers. Emblematic of this perspective is the definition from Northouse (2019: 5[30]) author of the most widely sold leadership textbook in the world now in its 8th edition, used at 1600 institutions, and translated into 13 languages. Northouse analyzes the many leadership definitions and meanings into the sum of four components involving a leader and followers:

> Despite the multitude of ways in which leadership has been conceptualized, the following components can be identified as central to the phenomenon: (a) Leadership is a process, (b) leadership involves influence, (c) leadership occurs in groups, and (d) leadership involves common goals…(and so leadership is defined as) *a process whereby one individual influences a group of individuals to achieve a common goal*.

Complex Systems Leadership Definition

While the prevailing definition is individual/agent-based, goal-directed, and context-independent, in complex and chaotic contexts, a mindset to perceive mutual and influencing interactions among many people, events, and socio-technical elements becomes important to leadership. While organizational means and goals are presented, the stakeholders in organizational sub-systems and containing systems have their own interests and purposes. In an organizational system, all the people and elements interact in non-linear ways which can defy problem understanding, and in a dynamically complex system, all the elements are moving which defies prediction.

Leadership for a complex problem is informed by systems thinking which has certain characteristics. These include that the elements within an organizational system include people, events, and influencing forces; there are interconnections and interdependencies among the elements; the elements – people and groups – have their own purposes; and the organizational system as a whole has a primary function or purpose that can cannot be attained by any of the elements alone, but which emerges from the interactions of all the components.

In a complex systems context, leadership is *an emergent proficiency derived from the interaction of elements that enables improved organizational performance*.

Complex Systems Leadership Proficiencies

When problem context shifts from complicated to complex, the enlightened leader recognizes this. Rather than only focusing on individual, goal-directed and context-independent competencies to influence followers, the leader adapts by changing his/her mindset and seeks novel and emergent outcomes that focus also on improving organizational performance. To make this mindset change requires different leadership capacities and proficiencies than described as the prevailing traits, and skill, style and behavior competencies.

The University of Cambridge Institute for Sustainability Leadership (CISL),[79] examined leadership theories and leadership development framed within the United Nations Sustainable Development Goals (SDGs) which were launched in September 2016. CISL summarized the elements of a 'good' global leader into a model based on earlier research by Visser and Courtice (2011[80]). This approach argued that a leader operating with a global perspective and in a complex context should have the seven characteristics described in Table 6: capacity to be a systems thinker, proficiency to navigate complexity, open-minded, long-term thinker, interdisciplinary, inclusive, and globally conscious. CISL does not suggest if these are additive and linear or interactive and non-linear.

Table 6. CISL Global Leadership Characteristics (Based on Visser and Courtice, 2011)	
Characteristic	Description
Systemic thinker	Ability to appreciate the inter-connectedness and interdependency of the whole system, at all levels, and to recognize how changes to parts of the system affect the whole
Navigates complexity	Analyzes, synthesizes and translates complex issues, responds to risk, uncertainty and dilemmas, recognizes and seizes opportunities and resolves problems or conflicts
Open-minded	Actively seeks new knowledge and diverse opinions, questions received wisdom, including being willing to have one's own opinion challenged
Thinks long-term	Envisions and using strategic, long-term thinking and planning, sees the whole, while not discounting the future
Interdisciplinary	Sees the relevance and inter-connectedness of the political governance, physical sciences, technology, business and other disciplines

Inclusive	Collaborative and participative, reconciles different world views and belief systems, both within communities and across geographic, cultural and political divides
Globally conscious	Understands economic, social and ecological system pressures and the connection between these systems and political and economic forces

Pourdehnad and Starr (2014)[81] suggested five interdependent (multiplicative) elements that enable leadership proficiency in a complex context. Any element alone is necessary but insufficient; it is the interactions among all from which leadership emerges and which contribute **to improved organization performance** which includes meeting the desired purposes and interests of stakeholders. These leadership elements are personality attributes, relevant skills, accessing experience, knowledge and understanding, and practical wisdom and sound judgment (see Figure 5 and Table 7).

Figure 5. Leadership is a systemic property and proficiency that emerges from the interaction of elements in a complex context

Table 7. leadership Proficiencies in Complex Contexts	
Characteristic	Description
Personality attributes	Traits and capacities when navigating complexity including nonlinear thinking style and creative thinking style.
Relevant skills	General skills of connectivity, communication, and collaboration. Specific skills include, for example, use of specific software or technology in response to relevant stimuli or in appropriate environments. Paradoxical behaviors of seemingly competing, yet interrelated, behaviors to meet organizational demands simultaneously and over time.
Previous experiences	Accessing experiences and recognizing patterns accumulated over time and in varied circumstances through conceptual/intellectual learning, experimentation/action learning, and reflection/emotional learning.
Knowledge and understanding	Leadership must also have the proficiency to perceive new patterns and identify emergent phenomena associated with the current system and business model. Knowledge and understanding refer to the capacity of leadership to ask the right questions when navigating complex problems.
Practical wisdom and sound judgment	Intellectual and moral virtue that ensures selection of the right ends by the right means – cognitively and behaviorally – across differing contexts.

Personality attributes are traits and individual capacities several of which have been identified within the three prevailing streams because they are important when the context is simple or complicated. When navigating complexity, however, leaders must possess additional cognitive capacities. Groves & Vance (2015[82]) have noted that nonlinear thinking style compared to linear thinking style is preferred for decision making and problem solving in complex situations because it focuses on seven distinct, yet interrelated dimensions: intuition, creativity, values, imagination, flexibility, insights, and emotions. Creative leadership style is described as "leading for creativity and innovation" (Dinh et al.,2014[83]) and may also be important. This is because this style is "unusually complex and its manifestations vary according to the context wherein it is enacted, (so) we should expect to encounter complexity and contextual differences … in the body of knowledge that has been generated about creative leadership" (Mainemelis, Kark & Epitropaki, 2015: 396[84])."

Relevant skills are cognitions, behaviors and styles that are general and specific. Goman (2017[85]) noted in *Deloitte's* 2017 report on the *Future of Work*

(Hatfield, 2017[86]), that 65% of the C-Level executives surveyed had a strategic objective to transform their organization's culture with a focus on general skills of connectivity, communication, and collaboration. Specific skills include, for example, use of specific software or technology in response to relevant stimuli or in appropriate environments. Relevant skills also include the ability and willingness to develop new platforms for recognizing opportunities beyond the current horizon as well as the diversity of talent and resources necessary to envision a situation or outcome before events occur.

Another relevant skill is called paradoxical leader behavior (Zhang, Waldman, Han & Li, 2014[87]) and is the leader's skill to engage in seemingly competing, yet interrelated, behaviors to meet organizational demands simultaneously and over time. These include combining self-centeredness with other centeredness; maintaining both distance and closeness; treating colleagues uniformly, while allowing individualization; enforcing work requirements, while allowing flexibility; and maintaining decision control, while allowing autonomy. These capacities are associated with increased proficiency, adaptivity, and proactivity in organizational environments that become increasingly dynamic, complex, and competitive.

Previous experiences gained from performance enacted directly and indirectly and observed vicariously are important for leadership in complex contexts. Accessing experience refers to recalling viable, requisite and relevant patterns which resemble past events and outcomes that apply to the current situation, rather than being hamstrung by them. Accessing these also requires that the leader has had opportunities for these experiences to be available. These are more likely and more relevant when they have been gained over time and in varied circumstances (contexts) through conceptual/intellectual learning, experimentation/action learning, and reflection/emotional learning.

Knowledge and understanding refer to the capacity of leadership to ask the right questions when navigating complex problems. When a problem situation is unordered, ill structured and messy, efforts to define it with questions beginning with "who, what, when, where, and how many" can provide knowledge. These answers can then be conveyed by instructions to respond. However, understanding is conveyed by explanations, answered only by asking "why" questions because

> Understanding is an interpolative and probabilistic process by which knowledge is synthesized into something new. The difference between understanding and knowledge is the difference between learning and memorizing. Leaders with understanding can undertake useful actions because they can synthesize new knowledge, or in some cases, at least new information, from what is previously known and understood (Bellinger, Castro & Mills, 2004, para. 6[88]).

Practical wisdom and sound judgment refer to the intellectual and moral virtue that ensures selection of the right ends by the right means – cognitively and behaviorally – and across differing contexts. More an art and humanity than science

and technology, this concerns producing desired outcomes and positive experiences of engaging in action.

Systems Approaches

The *navigating differing contexts* theme posits that when the context shifts from ordered and complicated to unordered and complex there must be a corresponding shift in the leader's mindset, mode of thinking and method of deciding. The preferred mindset for complex problem solving is to adopt a systems approach as described by editors of the *National Academies* reference book on decision making for the public health challenge of obesity prevention (Kumanyika, Parker & Sim, 2010[89]).

> Linear approaches to complex public health problems such as the obesity crisis are clearly useful but cannot address the multiple dimensions of the real world and the many influences on the energy balance equation … It is necessary to embrace complexity and to develop strategies and implement change at multiple levels to influence human behavior and reverse the current upward trends in weight. A systems perspective offers a new approach to obesity research and action that can meet this challenge.

The phrase, **systems thinking,** is used in everyday conversation. Among scholars and researchers, however, the phrase may be used interchangeably with the wide family of **systems approaches and the many methodologies and tools derived from these approaches.** When a leader is confronted with a complex problem or opportunity, a single systems-thinking theory may be *helpful but is often insufficient*. More important is familiarity with several systems approaches because general systems thinking concerns thinking; it does not necessarily identify a preferred method of intervention that can identify a change or pathway that navigates, solves or dissolves a specific complex situation. It is the implications, methods and tools derived from several systems approaches and theories that offer leaders the opportunities to intervene and navigate complex contexts.

The history of systems approaches in the Western tradition commonly begins with Ludwig von Bertalanffy who developed general systems theory in 1937, published his work beginning in 1946, but gained traction following publication in 1968 of his book, *General System theory: Foundations, Development, Applications*.[90] While he focused on his work as a biologist, his desire was to use the word *system* for those principles that are common to across systems – mechanical, biological, social and ecological.

Among systems approaches, the theory that has received the most popular attention in the US is system dynamics. This was described by Jay Forrester at MIT, emerged from engineering, uses computer-aided modeling, and has been promoted and popularized by Peter Senge in the book, *Fifth Discipline* (1990[91]). Many academic

institutions that teach systems thinking present only system dynamics as if it is the only systems approach. About this limited conception, Jackson (2019[92]) wrote,

> I remain fed up with the many people who, following on from Peter Senge, continue to reduce systems thinking (ST) to system dynamics (SD). In my recent book *Critical Systems Thinking and the Management of Complexity* (Wiley, 2019), I detail ten ST approaches of which SD is only one. The paper I have co-authored with Luis Sambo argues that the error of reducing ST to SD is also dangerous. It has held back the field of health systems research (HSR) and limited its capability to intervene successfully to help with the multi-dimensional wicked problems found in health systems.

Jackson (2003[93]; 2019[94]) proposed that systems approaches can be placed into a system of systems methodologies (SOSM). These can be differentiated by their applied nature in varying contexts and categorized into types as presented in Table 8 (Jackson, 2003, p. xxiii[77]).

Table 8. Systems Approaches and Theories		
	Systems Approaches	Systems Theories
Type A	Improving Goal Seeking and Viability	▪ Hard Systems Thinking ▪ System Dynamics ▪ Organizational Cybernetics and Viable Systems Model ▪ Complexity Theory
Type B	Exploring Purposes	▪ Strategic Assumption Surfacing and Testing ▪ Interactive Planning ▪ Soft System Methodology
Type C	Ensuring Fairness	▪ Critical Systems Thinking/Heuristics ▪ Team Syntegrity
Type D	Promoting Diversity	▪ Postmodern Systems Thinking

Leaders who are educated in multiple systems approaches can apply many methodologies and tools when confronted with complex and systems problems. While Jackson presented his SOSM in a chart, these approaches can be combined and used collaboratively to better frame and understand challenge, and to intervene.

Type A systems approaches help organizational goal-seeking and viability by increasing the **efficiency** and **viability** of organizational processes and structures. These theories focus on tasks completed and responses to environmental changes. System Dynamics is one of four theories in this category.

In Type B the focus is on improving organizational **effectiveness** and performance by exploring **purposes** and ensuring adequate agreement is obtained among the organization's stakeholders. The primary orientation is to evaluate differing perceptions, interests and objectives, promote common understanding, and ensure accommodations are reached in order to have commitment to the purposes. Discussions often concern effectiveness and the elegance of what is proposed (designed). Interactive Planning, one of the theories (which informs a methodology) in this group, was described by Russell L. Ackoff at University of Pennsylvania. This emerged from architecture/design, philosophy, and management, focuses on the values, interests and purposes of organizational stakeholders, and has been promoted in hundreds of books and papers globally. Soft System Methodology (SSM) was described by Peter Checkland at Lancaster University. The methodology informed by his approach emerged from systems engineering and can portray in graphic form how differing perceptions about a problem and its meaning can be understood.

Type C shifts the concern to ensuring **fairness** within and between organizational systems and sub-systems. Performance is seen as improved when discrimination of all kinds is eliminated, and full and open participation is encouraged so all stakeholders have a say over decisions that involve them. This approach is particularly useful when the concern is emancipating and empowering disadvantaged groups. Critical Systems Thinking/Heuristics was conceived by Mike Jackson working with Gerald Midgley and Bob Flood at University of Hull, and Werner Ulrich at University of Fribourg.

Type D concerns postmodern systems thinking in which performance is improved when groups exhibit **diversity** appropriate to the challenges faced in new times. Organizations can become sterile and boring when dominated with routine systems of thinking or practices. Postmodern systems challenge this and encourage difference, fun, and emphasis on looking for exceptions and engaging emotions when seeking change.

Part 2: Theories of Learning, Curricula, and Channels

This concludes my essay on the nature and importance of leadership, and the four taxonomies or influence themes from which are derived most leadership models and theories: (1) **indirect patterns of influence**, (2) **direct patterns of influence**, (3) **patterns of relationships** also referred to as **relational leadership**, and (4) **navigating differing contexts**.

My second essay discusses the assumptions, expectations and relationships among learners, instructors, context, and content from which teaching and learning approaches have emerged. Pedagogy is most common, andragogy is increasingly appropriate for the changing demographics of higher education, and heutagogy is urged for adult learners in higher levels, particularly doctoral and applied executive leadership learning programs. I then describe leadership curricula and using a *woven*

strands metaphor propose courses appropriate for undergraduate, master, and doctoral leadership programs.

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