

Exploring Elegant and Practical Explanation Age® Concepts: KM as Learning

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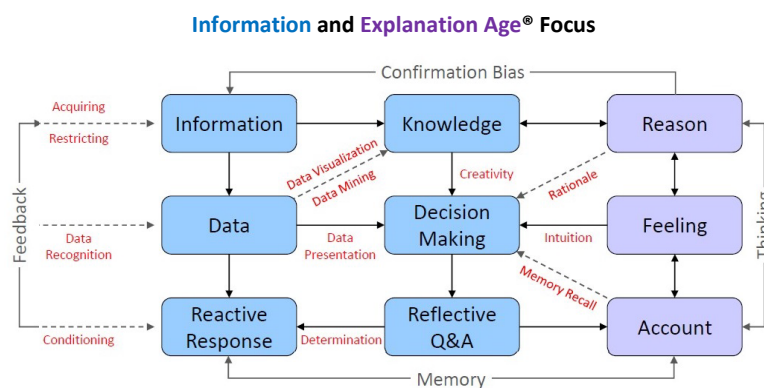
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Abstract: *Purpose:* This paper reviews the elegant and practical concepts developed by John Lewis in *The Explanation Age*® by expanding the summary from Sisson’s 2023 Unified Theory of Knowledge Management dissertation literature review. *Approach:* The integrated concepts are discussed individually, as well as in relation to their implications. *Contents:* *The Explanation Age* redirects thinking with Option Outlines™, providing a means to develop and document *why* answers into decision-making with transparency. It introduces the unified Innate Lesson Cycle™ change model, which explains the difference between conditioning and determination to develop better answers. Based on neuroscience, Story Thinking™ recognizes that everything is in a story (unlike storytelling, which communicates only about the past and envisions the future). Story Thinking provides an approach to better execute the innate lesson cycle. The 8 Degrees of Reason™ and The Symbiotic Table of Knowledge™ provide underpinnings for the accepted endpoints for answers. *Findings:* *The Explanation Age* and Story Thinking support Lewis’s viewpoint of Knowledge Management as learning. Story Thinking can lead to transformational leadership results through collaboration. Lewis’s constructs provide an alternate view to the forensic *knows*, Aristotle’s causes, and Sisson and Ryan’s (2015; 2017) “11 things we know” (Sisson, 2023, figure 6-2). *Research limitations:* Since their 2008 inception, new implications of Explanation Age concepts continue to surface. *Practical implications:* Lewis’s concepts provide useful constructs for thinking and understanding learning from a KM perspective. Option Outlines provide a way to document *why*. “The Innate Lesson Cycle describes the phases of lesson-based learning, for both” experiential (Kolb) and rote (Skinner) learning (Lewis and Sisson, 2016; Sisson, 2023) making their concepts more useful. Story Thinking—as a practical operational strategy—extends the implementation capabilities of the Innate Lesson Cycle and provides an approach for transformational leadership. *Social implications:* Story Thinking as an operational concept provides new ways to identify innovative ideas and facilitate change. Sensemaking and transparency in decision-making (missing in the fundamental models used by institutions, such as agile, education, healthcare, and policy) are the basis for this (the only complete) descriptive model of change.

Keywords: Knowledge management, Learning, Industrial revolution, Storytelling, Knowledge, Degrees of reason

1. Introduction

“Unlike most Knowledge Management (KM) people, [who] start with *knowledge*, [Lewis starts] with lesson-based learning’ (Lewis and Sisson, 2016)” (Sisson, 2023). Lewis (2010) began explaining what is needed to move from the Information Age to the Explanation Age. Murray and Lewis (2011) suggest the internet’s “WWW” today actually stands for the *World Wide What*.” With “1,000 exabytes of digital data produced in 2010,” more information is not needed. What is needed is “the reasoning behind the data”—*why*. Lewis developed Option Outlines to document *why*. Lewis envisions data, information, and decision-making as “the building blocks of an explanation” (Figure 1). The account is the story—summaries, the story, options and choices, the innate lesson cycle, learning, morals, and characters (old and new). An Option Outline documents *why*. Lewis provides new KM building blocks clarifying knowledge with his 8 Degrees of Reason. (Lewis, 2012a)



Managing the Reactive and Reflective Systems Explanations

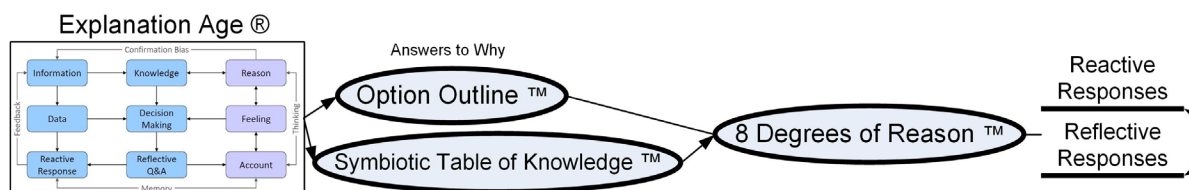
Source: Combined (Lewis, 2012b; Lewis, 2013)

Figure 1: The Explanation System

De Bono (1985) introduced six “thinking hats.” In supporting decision-making, Lewis (2012b) adds two more in the development of the explanation system model. The development of the Innate Lesson Cycle goes beyond the traditional descriptions of learning. Lewis sees the cycle as a driver for innovation, recognizes the importance of past, present, and future stories, and further extends the cycle with a practical example of Story Thinking as an operational strategy using a transformational leadership model.

2. Explanation Age Concepts

Figure 2 relates four parts of the initial Explanation Age concepts. An Option Outline shows *why* based on consequential choices and reasons. Reasons are based on knowledge. The fifth part—“the Innate Lesson Cycle™, [a knowledge development-evolution model]—extends traditional education, training, drill and practice, [and conditioning] learning models incorporating responding to disruptions with investigation, ideation and new solution development” (Sisson and Ryan, 2016a) for more effective change development and implementation. Its repeating steps extend the traditional learning approaches (fast-track learning) with reasoned improvements (slow cycle learning) that can better support innovation.



Source: Modified and extended part of Sisson (2023, figure 2-11 CC-BY-NC)

Figure 2: Explanation Age® Base Concepts

2.1 8 Degrees of Reason

“Learning is the gaining of knowing – satisfied with some degree of reason” (Lewis, 2013). There are only eight types of reasons: reactive, prescriptive, entity, state, sequence, responsibility, reasoning, and question (Lewis, 2013, table 10.1; Lewis, 2015a, internet archive). The questions are broken into questioning and resolution in Lewis’s figure 9.1. Option Outlines are heavily populated with reasons. (Lewis, 2012a)

Lewis (2013) shows each of the reasons, provides a description and example terms, examples, famous reasons, and associates them with a person and their influence, as well as providing an inference model of innate reason. For example: 1) Questioning is “what one thinks from”; 2) Responsibility could be, “it’s the cat’s fault by coming into our yard”; 3) Reasoning: “Either Pluto is not a planet, or we have hundreds of planets”; 4) Reactive: “B. F. Skinner – Behavioural Psychology.” The Inference Model of Innate Reason leads to the Symbiotic Table of Knowledge differentiating between *why* and *wherefore* (Lewis, 2012b). Lewis (2013) continues with *what* you know and *how* you know (Figure 3).

Reason Degree	What You Know	How You Know
8 Questioning	Fact (Conviction Questioned)	Theory (Curiosity Questioned)
7 Reasoning	Concept	Proof
6 Responsibility	Principle	Evaluation
5 Sequence	Process	Pattern Recognition
4 State	Case	Synthesis
3 Entity	Definition	Analysis
2 Prescriptive	Methodology	Application
1 Reactive	Routine	Rote

Source: Copied words from Lewis (2013)

Figure 3: What You Know and How You Know

2.2 Symbiotic Table of Knowledge

As Wiig states, “Knowledge is multidimensional and complex!” (1993). It is “a multifaceted concept with multilayered meanings” (Nonaka, 1994) and is “on a continuum” (Nissen and Jennex, 2007). “Knowledge is

constructed” (Bodner, 1986; Lowenthal and Muth, 2008; Jakubik, 2011) “each time it is [retrieved]” (Sisson and Ryan, 2017). Knowledge is what we know: it enables a capacity for informed action (per Peter F. Drucker in The New RealitiesStankosky, 2003).

Sisson and Ryan (2016b) construct and display a knowledge concept map relating many aspects of knowledge. Then, Sisson and Ryan (2017) expand upon the knowledge as an object representation, while Sisson (2023) goes on to discuss knowledge as a process, resource, asset, commodity, science, practice, reality, social construct, and energy. Lewis (2015c, internet archive) points out, “...simply having knowledge is no longer the primary advantage. The primary advantage comes from asking the right question. This means that *Knowledge is no longer the ultimate power. Questioning is power.*” “Imagine the symbiotic table of knowledge being used as a balanced scorecard to determine if an education consisted of memorizing for conviction, or if the education also provided an ability to understand from curiosity” Lewis (2015c, internet archive) providing a table that aligns question forces, operations, and types to develop descriptive and prescriptive kinds of concise, contextual, consequential, and conceptual types of knowledge answers.

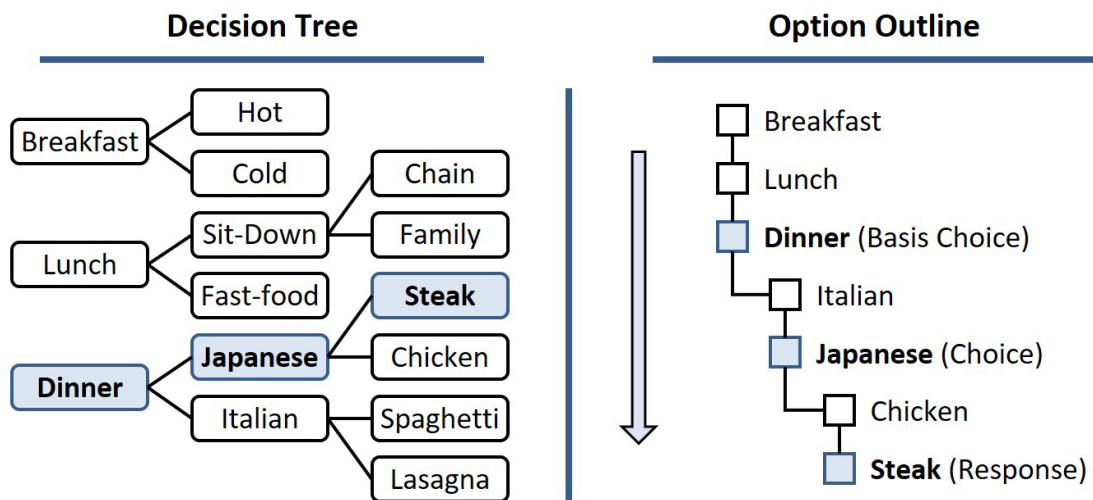
2.3 Answers to Why (Option Outlines)

The eight reasons, coupled with the table of knowledge, are needed foundational skills for determining *why*. There are tools that help document *what, when, where, who, and how*: word processors; clocks, watches, and calendars; maps and GPS; contact lists, social media, and expert finders; and checklists and process maps (Lewis, 2012b). Some help with answering *which*. Option Outlines help record consequential “choices and reasons made that often are either not captured, or were buried” (Lewis, 2013). Figure 4 shows the difference between a decision tree and an option outline.

Decisionmakers in business use visualization tools to help them every day. When they ask “where,” they use a map, compass, or GPS unit to see where they are and where they want to go. When they ask “how,” they use a process map to see what step they are on. When they ask “which,” they use a decision matrix to see the criteria and weights that help them make a single decision. But when they ask “why,” to visualize multiple decisions, there are currently no commonly used tools.

An Option Outline™ [Figure 4] allows us to see an entire train of thought before being asked to provide our opinion on individual choices which are taken out of context.

(Lewis, 2013)



Source: (Lewis, 2013, figure 4.1)

Figure 4: Decision Tree Versus Option Outline

Option Outline: Work Project – Why Solution 2	
We would rather program the code in-house	↓
We would rather focus on our core competencies	(Choice)
Contract the work to custom programmers	↓

Option Outline: Work Project – Why Solution 2	
Use the supported off-the-shelf software	(Choice)
Select vendor W, W, or Y	↓
Select vendor Z (Link to Weighted Decision Matrix)	(Choice)
Wait for missing low priority feature in the next version	↓
Add custom code for missing low priority feature	↓
Missing low priority will have temporary workaround	(Choice)
“Now I have extra work, so Z was a bad decision”	(Opinion)

Source: Adapted from Lewis (2013, figure 4.2); (Lewis, 2015b, internet archive)

Figure 5: Sample Option Outline

It is reflective thinking and to a degree indicates (truth) as shown by the validity and dispositional scales: “sentiment, persuasion, belief, and conviction” and “feeling, thinking, believing, knowing” (Sisson and Ryan, 2017 figure 6).

This approach adds visualization and sense-making to activities now occurring in all organizations, but happens as box-checking, without understanding and transparency. There are currently tools to help humans with how, where, when, etc., but few ubiquitous tools [are] found for why. “The most important question is the least supported.” Transparency International has demonstrated that transparency (into decision and process corruption) [indicates] “how well people will live.” (Lewis, 2013; Lewis and Sisson, 2016; Sisson, 2023)

Few tools help us answer the basic question of “why” when asking to see, in one snapshot, the multiple options and decisions that have led to the current situation. Projects end with choices made that were either not captured or were buried somewhere within the prose of many documents (Lewis, 2013). It is possible to envision an option outline for the choices evaluated in a large government solicitation that would render protest futile. Policymaking is a mental exercise. The societal implications of Option Outlines may be the Explanation Age’s most significant potential impact.

2.4 Innate Lesson Cycle

The acronym ADIIEA lists the six steps for the Innate Lesson Cycle: automation, disruption, investigation, ideation, expectation, and affirmation (Figure 6). “ADIIEA does not assume that learning is based on a cyclic conversion between tacit and explicit knowledge (SECI model), but that learning is based on knowing if something works” (Lewis, 2014, figure 3): does work, won’t work, and could work. Questioning and reflective and reactive answers from the 8 Degrees of Reason help in the ADIIEA steps.

Innate Lesson Cycle™	Related 8 Degrees of Reason™
	<ul style="list-style-type: none"> ← Questioning → ? ← ← Reasoning → . ← ← Responsibility → . ← ← Sequence → . ← ← State → . ← ← Entity → . ← ← Prescriptive → . ← ← Reactive → ! ←
Source: (Lewis, 2012b)	Source: (Lewis, 2013)

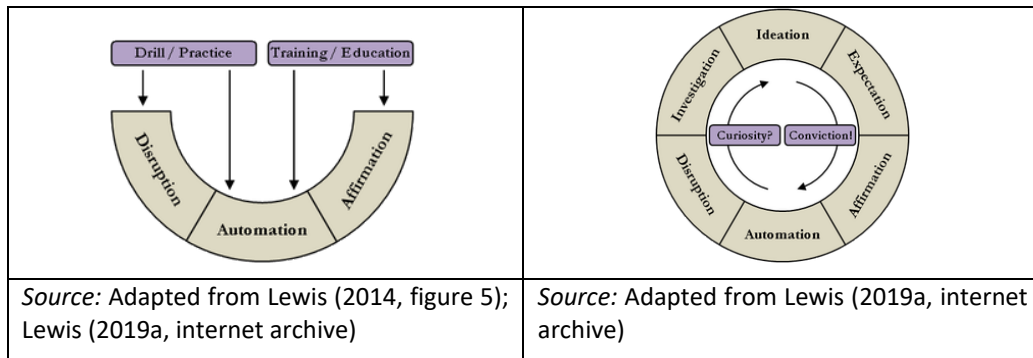
Figure 6: Innate Lesson Cycle and Reasons: Note Punctuation Marks

Punctuation tracks across languages. Spanish poses a question by placing a question mark at the beginning of a sentence. *Reactive* can result from conditioning or determination. The Innate Lesson Cycle promotes reasoned determination.

“Learning is no longer something that is said to be the core function of an organization; [now] learning is something that can be shown as the core function of an organization. The purpose of ADIIEA is to replace the current ‘box-checking’ models with a ‘sense-making’ model to help prepare organizations for the knowledge economy” (Lewis, 2014).

Traditional education, training, practice, and drills alone produce half-pipe learning. Training, practice, and drills condition responses for useful habits, however, investigation, ideation, and expectation phases of the full pipe produce better system-level understandings (Figure 6). Lewis’s table 1 (2014), compares the ADIIEA phases to Six Sigma DMAIC (define, measure, analyze, improve, and control), PDCA (plan, do, check, and act), and “Making a Law Steps” models. Automation, the old status quo, now has both codification and control and follows affirmation. The full-pipe cycle learning provides for “curiosity?” and “conviction!” (Lewis, 2019a, internet archive).

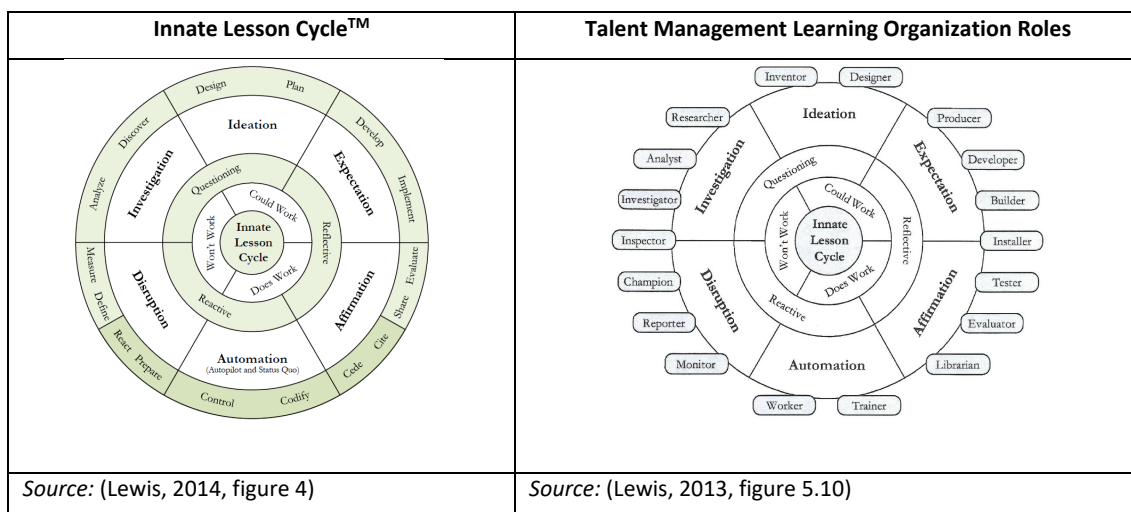
Figure 7 shows how formal training and education focus on “half-pipe” learning. Figure 8 shows the complete model: analyze and discover for investigation, design and plan for ideation, etc. The model provides a detailed plan for systems innovation and Knowledge Management Systems implementation. Learning moves from “add-on” work as education or individual training to “an integrated framework for business processes and organizational learning.” (Lewis, 2014). Lewis (2013) goes on to discuss forward thinking and how the Innate Lesson Cycle can be used in strategic planning, talent management (Figure 8), innovation maturity, and learning organization roles. “It suggests creating an Integrated Framework for Business Processes and Organizational Learning built around [the concept]” (Sisson, 2023).



Note: Leadership is similarly described, transactional or transformative (Lewis 2022a). (Bass, 1990)

Figure 7: Education and Training Versus a “Minds Natural Model of Change and Learning”

Change is constant (Lewis, 2022b; Kirk, 1951). The Innate Lesson Cycle is a well-enabled, unified model providing an excellent approach for change management and innovation.



Note: The bottom of the cycle is darker to highlight those sections. Cite as a starting point cedes authority, and learning gets stuck in the half-pipe.

Figure 8: Innate Lesson Cycle™ and Application

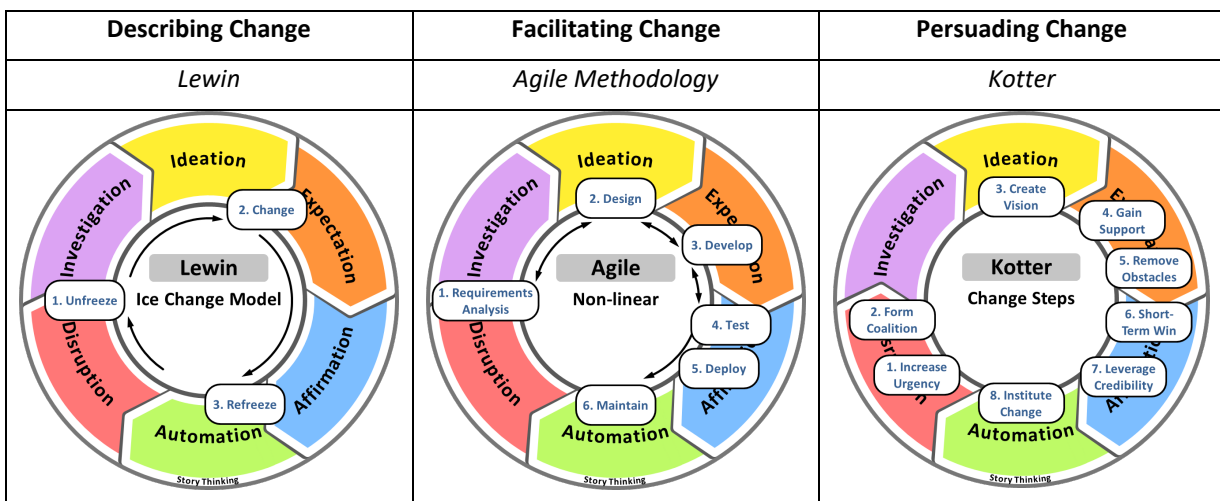
3. Storytelling

We are wired for stories.

Storytelling is used for past, [present.] and future stories.

Story Thinking brings story structure into now-time to challenge current prescriptive models for change, work, and learning. (Lewis, 2022b)

“We think in story. It’s hardwired in our brain. It’s how we make strategic sense of the otherwise overwhelming world around us’ (Cron, 2012)” (Lewis, 2022c). “Storytelling is a communication strategy.” Story Thinking as a practical operational strategy extends the implementation capabilities of the Innate Lesson Cycle. Leaders tell stories about past successes as examples of how the organization succeeded for “historical context and lessons learned.” Lewis’s (2022c) present-time stories address “working and learning models.” Leaders should tell stories about the future they envision and strategies to achieve them. This “natural, storytelling pattern which ‘aligns to Kolb’s learning cycle but with more detail.’ It ‘also aligns with the latest in neuroscience’ (Lewis and Sisson, 2016) as described by Nobel Prize winner Kahneman (2011) in *Thinking Fast and Slow*,’ and begins descriptive as opposed to other models that begin prescriptive (Lewis, 2014). (Lewis and Sisson, 2016)” (Sisson, 2023). Current present-time stories address planning (do, check, and act), defining (measure, analyze, improve, and control), analyzing (includes design, develop, implement, and evaluate), and unfreeze (change and refreeze), and more from the Innate Lesson Cycle shown in Figure 9. The Innate Lesson Cycle becomes the Story Thinking Cycle when storytelling moves to Story Thinking and can be used as an operational strategy. The cycle “allows for ‘rocking’ between phases, but it begins and ends in our most natural state: automation.” One advantage is that the approach addresses often occurring sticking points. Most current models are prescriptive (Lewis, 2022c; Lewis, 2022a, fifty listed on slide; Bennet, Bennet and Turner, 2022).



Note: The Innate Lesson Cycle and Story Thinking not only describe change but also facilitate and persuade.

Source: Extracted from Lewis (2022a)

Figure 9: Change and sustain Management

Emotions can provide clues to which Innate Lesson Cycle phases a person or team may be stuck within. Instead of using a long list of positive emotions and negative emotions, specific emotions relate to each phase. For example, for the Affirmation phase, positive emotions include: Accepting, Trusting, Joy, Pride, and Gratitude. And negative emotions include: Dissatisfied, Disappointed, Sad, Guilt, and Shame. (Lewis, 2022c)

In Story Thinking, quad-loop learning provides five types of feedback: compliant, productive, inventive, perceptive, and goal (Lewis, 2019b, figure 4.2). Storytelling past, present, and future are communication strategies. Story Thinking™ is an operational strategy.

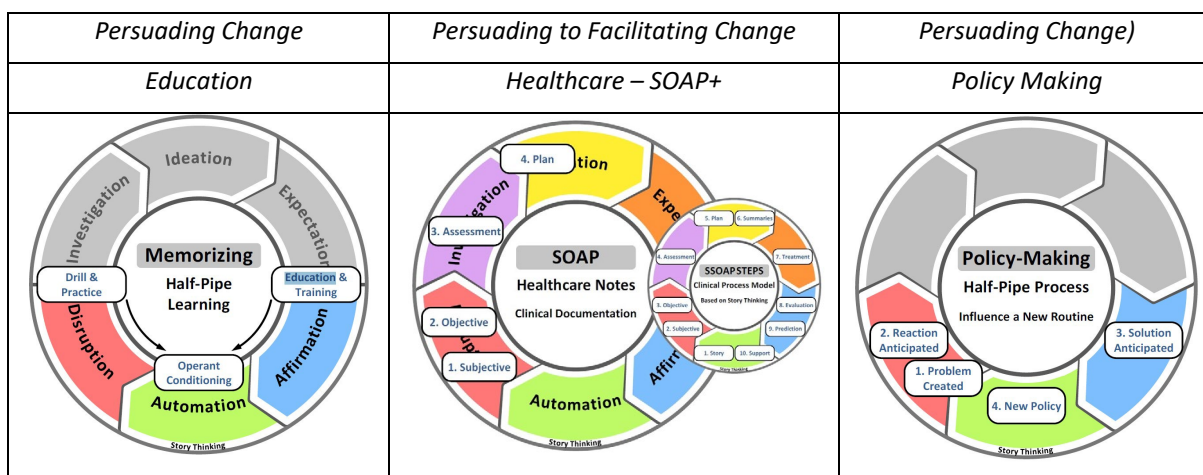
4. Implications

There is a plethora of prescriptive models that are not mapped back to a complete descriptive model—one that maps back to what we are wired for (the way we make sense)—such as the Innate Lesson Cycle. This results in unneeded disruptions to those models’ execution, gaps in execution, and often incomplete solutions.

The unified Innate Lesson Cycle underlies all change models (Lewis, 2020). There are multiple ways to view images in Figure 9 and Figure 10. One is Lewin (Lewis, 2022a): the agile methodology and other approaches skip steps and offer silver bullets that provide efficiency in specialty situations. The Innate Lesson Cycle provides a fallback when there are problems. The second view is that “there is no such thing as a silver bullet” (Sheard, 2003; Sheard, Circa 2003; Hijazi and Subhan, 2020, re: maintenance and repair of medical devices) and these earlier solutions are deficient. By example, Kotter seems to skip investigation and pulls solutions from thin air.

Looking at the fifty models compared to the Innate Lesson Cycle from a Story Thinking perspective, three of the images can be used to clearly show the significant implications to society and why the current models are not working as well as users might desire. Memorization/training is half-pipe. Conditioning, such as multiplication tables, is useful, but less so for other skills. CDIO (conceive, design, implement, operate) is a facilitating change for engineering students. In healthcare, for example, SOAP (subjective, objective, assessment, and plan) is used to develop a treatment plan for a patient. It is not traditional half-pipe, and still only addresses half the needs. Completing the circle facilitates effective change. Policymaking also has a full-pipe facilitating model.

OODA (Observe, Orient, Decide, Act) enables reacting to a change (facilitating model). It is a learning approach that conditions users to enable fast reaction (Lewis, 2022a). It is an exception to the silver bullet rule.



Source: Extracted from Lewis (2022a)

Figure 10: Change Methodologies

5. Leading Transformational Leadership

The CoHero leadership framework leverages the Innate Lesson Cycle. It is “more like ‘sense making’” than “box checking.” The holistic unified model is addressing requirements for change phases, management strategies, and leadership attributes. “Transformational change starts when we move our belief from ‘Does Work’ to ‘Won’t Work’ to ‘Could Work.’” It leverages ideation, collaboration, project-based, case-based, answer, dashboard, business rules, workflow, risk/decision, business intelligence, and discovery systems at different points in the cycle. (Lewis and Moran, 2015). They explain the ADEIIA phases, their associated management strategies, related leadership attributes for each, needed personas, and questions to drive the phases—making planned innovation achievable.

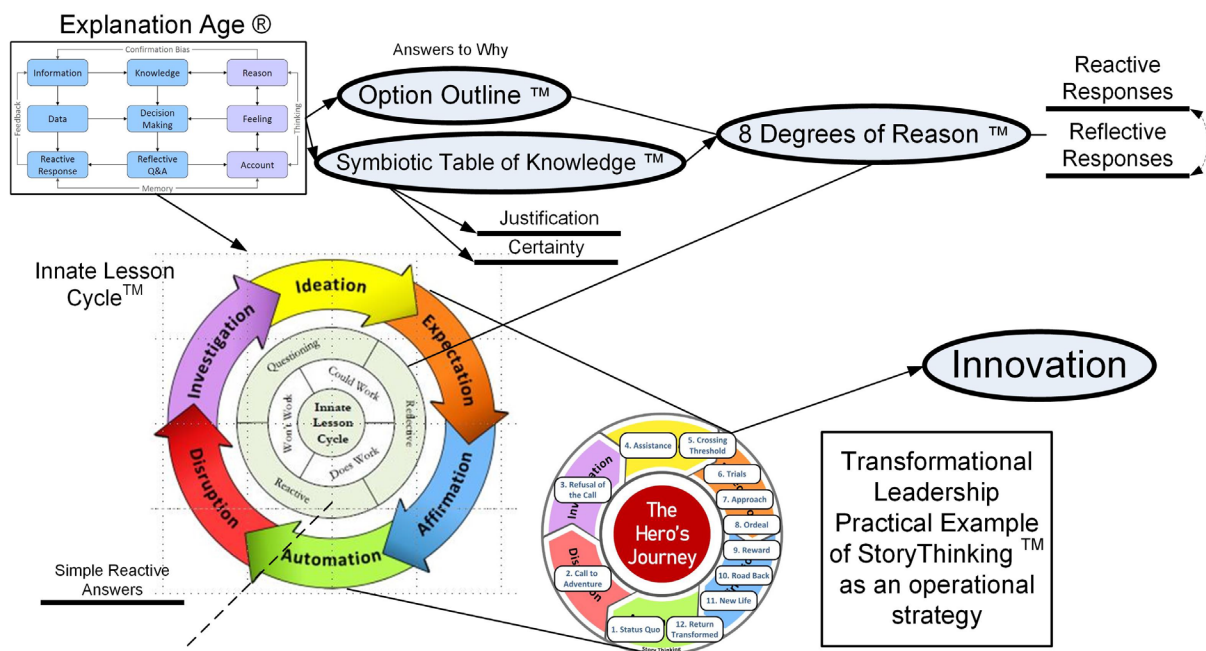
6. Integrated Viewpoint

All the previously mentioned concepts fit together as shown in Figure 11. The 8 Degrees of Reason help ensure reflective responses in the Innate Lesson Cycle. The symbiotic table of knowledge assists with certainty and justification. Option Outlines provide a record. Transformation Leadership encompasses the Innate Lesson Cycle and builds on storytelling to provide a concrete approach to learning.

7. Conclusion

John “wrote Story Thinking because neuroscience shows we are wired for stories. Now we can see ‘YOU ARE HERE’ within the map of ‘story’ that produces understanding” (Lewis, 2022c). “There is an inherent relationship between knowing concepts and having the language to describe them” (Lewis, 2013). “OCR [optical character recognition] works because of the ‘R.’ You recognize where you are in time (when), on a map (where) [now] in an explanation (why)” (Lewis, 2012b). The Innate Lesson Cycle enables full-cycle learning and provides a foundation for Story Thinking™ as an operational strategy and transformative leadership as an expression of it. Collectively, they provide the new kind of thinking needed for “the fourth industrial revolution based on intelligence and digital connectivity (using a story mental model) (Lewis, 2020)” (Sisson, 2023).

Oliver Wendell Holmes once said, “I wouldn’t give a fig for the simplicity on this side of complexity, but I would give my right arm for the simplicity on the far side of complexity.” He was describing the elegance found only after having the knowledge of the options and choices considered from each lesson phase which leads to a state of proficient automation (Lewis, 2013). Memorizing what to do (simplicity) is not the same as also knowing the trade-offs involved when creating the prescriptive steps (elegance).



Source: Adapted from Sisson (2023, section 2.2.2.2.5), Innate Lesson Cycle™ reproduced from Lewis (2014), and updated with ideas from Story Thinking™ (Lewis, 2019b).

Figure 11: John Lewis’s Explanation Age® Integrated Concepts

“Without a map, we are lost, in geography and epistemology” (Lewis, 2021).

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