The Need for Contextual Intelligence in Athletic Training

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Athletic training and the environment in which it is practiced is constantly changing. The emergent environment is volatile, uncertain, complex, and ambiguous. This new environment necessitates an adjustment to athletic training education particularly as it pertains to the instruction and development of the nonclinical skills (meta-skills) needed for clinical settings. One such meta-skill is contextual intelligence. Contextual intelligence is the capacity to recognize the convergence of different variables and respond to the emerging context as it is developing. Practicing contextual intelligence includes integrating 12 specific behaviors and the 3D thinking framework of hindsight, insight, and foresight into clinical decision making.

Keywords: VUCA, complexity, leadership, meta-skills

Each is deceived by the sense of finality peculiar to the stage of development at which he stands. (Carl Jung)

Athletic training is experiencing an accelerating pace of change. The ambiguity and uncertainty associated with that change show no signs of diminishing. The world that athletic trainers are being asked to navigate is emergent and full of *volatility*, *uncertainty*, *complexity*, and *ambiguity* (VUCA). This emergence threatens our personal and professional impact. In response, the scholarly literature is full of recommendations on how to navigate VUCA in health care.[1–6] In short, if we fail to adapt to the leadership demands of a VUCA world, we risk becoming insignificant or irrelevant. On the other hand, if we embrace the complexity of our new reality and intentionally unlearn and relearn *leadership*, we can thrive in this new normal. Reframing our conception of leadership, specifically what it is, how it is developed, and who can do it, is the key to thriving in the turbulence of VUCA. I am convinced that a large part of that reframing includes integrating *Contextual intelligence* (CI) into our clinical practice and decision making.

Athletic training's focus on developing clinical expertise has proven useful for securing a seat at the proverbial "health care table." However, VUCA renders clinical expertise alone irrelevant. Securing a seat at that table is not enough. We must speak and be heard. Obtaining a voice at that table also requires the mastery of nonclinical skills. Nonclinical skills (such as CI) must be developed side by side with clinical skills. The importance of clear and decisive leadership in this new normal of VUCA cannot be understated. Yes, leadership has always been important, but in emergent environments, getting leadership "wrong" brings unnecessary consequences. Leading well in a VUCA world is significantly more nuanced than enacting measures that help avoid unwanted outcomes. In a VUCA world, leadership thinking and models that are outdated are a liability. Navigating the liability of outdated leadership thinking requires a new framework from which to lead and make clinical decisions. CI may be that framework.

What Is CI?

CI is the capacity to recognize when (and which) variables are converging, see their impact, and then have a keen sense of knowing what to do as the new reality (or setting) being observed is unfolding. CI has been described as a necessary and viable ability within athletic training,[7–9] medicine,[10,11] military science,[12] educational psychology,[13] institutional research,[14] higher education,[15] human resources,[16] nursing,[17] international business,[18,19] entrepreneurship,[20] and sports psychology.[21] CI is reported to help in identifying external and internal influences that are not immediately obvious, help in considering nonlinear relationships, promote a holistic perspective to resolve tensions among opposite ideas, and generate innovative outcomes.[22]

In 2019, in a response to the changes in the health care environment, nurse educators Miles and Scott[17] proposed a new theoretical model (the Nursing Leadership Development Model) for the American Association of Colleges of Nursing, which identified *contextual intelligence* as necessary for educating nurse leaders. It has also been reported that CI is a useful intervention for navigating turbulent social and professional environments.[23]

Recognizing Leadership

As educators and clinicians, we understand that cognition is the process of coming to know and understand something.[24] Therefore, "re-cognition" is the process of reexamining, or "coming to know" all over again. Therefore, *recognizing* requires actively disassembling long-held assumptions, examining those assumptions, and intentionally engaging in the learning, unlearning, and relearning cycle. If we fail to re-cognize leadership in a VUCA world, athletic training will not be able to meet the demands of modern health care or our patients. Health care is famously complex,[1] and navigating complex environments requires leadership literacy. Athletic training's survival depends on its clinician's willingness to "recognize" leadership. To begin recognizing leadership, we should look at it through the lens of a meta-skill.

CI: A Meta-Skill

A meta-skill is an ability or aptitude to use social capital and emergent expertise.[25] Meta-skills have been described as higher

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order skills that enable one to engage in their environment with functional proficiency,[26] and they are a prerequisite to implementing needed skills across multiple domains and disciplines.[27] Sometimes, those needed skills are *emergent* and seemingly appear out of nowhere, but are actually the "offspring" of the interaction between other skills that may be dormant, unrecognized, or unrelated.

Recent research has identified meta-skills as the "intangible" aspect of why certain graduates with the same degree are chosen over their peers.[25] This realization has profound implications. In other words, whereas credentialing standards are based on minimum levels of competency, and everyone meets that minimum level, differentiating between clinicians falls to their capacity to employ meta-skills. Emergent environments are alive; as such, they respond and recalibrate when perturbed. When credentials are the standard for competency in an industry, emergent environments (VUCA) will alter the landscape so that other factors, nonclinical factors, ensure survival. Practically speaking, that means when everyone can demonstrate clinical proficiency, say in evaluating a knee, to a minimum standard, learning more or different ways of doing it adds less value than adding nonclinical skills.
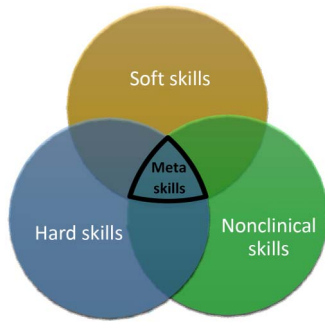

Figure 1 — Meta-skill makeup.

Meta-skills have been described as the catalyst for learning and building new skills faster.[26] They transcend any single type of skill that is a product of explicit knowledge or competencies. Meta-skills fall in the affective domain of tacit knowledge and are produced when hard skills, soft skills, and nonclinical skills converge in real time under conditions of stress (Figure 1). In a VUCA world executing meta-skills can be a priceless commodity toward improving patient outcomes, making better decisions (clinically and nonclinically), and facilitating interprofessional practice.

It is interesting to note that meta-skills are "nontechnical" by nature,[27] which can mean they are not a delineated list of psychomotor competencies that are to be executed at a certain level of proficiency. Instead, they are an intricately integrated cluster of multiple behaviors, aptitudes, and capabilities that interact with each other to create new skills and abilities that can be selectively deployed across multiple contexts or as needed. As such, CI is a quintessential meta-skill.

CI is the byproduct of 12 integrated behaviors. If practiced in isolation, those behaviors have less impact, but when integrated, can be incredibly powerful (Table 1). CI is organized around three time orientations (i.e., 3D thinking) and include hindsight, insight, and foresight with three meta-frameworks (Figure 2).[8,23] CI enhances leadership and is particularly effective in VUCA environments.[23] Reciprocally, developing VUCA-centric leadership literacy contributes toward one's overall CI.

Meeting the challenges of a complex health care system and a diverse patient population requires CI. Effectively applying CI has two preconditions: (a) the unwavering belief that leadership is worth adjusting priorities to learn, in other words, leadership has ontological value, and (b) the understanding that leadership literacy is *emergent* (in the philosophical sense of "greater than the sum of its parts," as something that arises out of dynamic and complex interactions). When these two preconditions are met, CI can become a medium to better clinical and professional decision making.

Table 1 Contextual Intelligence Behaviors

Contextual intelligence behavior	3D thinking dimension	Brief description
1. Diagnosis context	Foresight	Knows how to appropriately interpret and react to shifts or changes in one's surrounding.
2. Change agent	Foresight	Raises difficult and challenging questions that others may perceive as a threat to the status quo.
3. Future minded	Foresight	Has a forward-looking mentality and sense of direction and concern for where to be in the future. Sees beyond obvious contradictions or obstacles.
4. Intentional leadership	Foresight	Is aware and proactive concerning strengths and weaknesses and has delineated goals for achieving personal best and influencing others.
5. Constructive use of influence	Hindsight	Uses appropriate types of power to create a desired image and influence.
6. Critical thinker	Hindsight	Makes connections, integrates, and makes practical application of different actions, opinions, outcomes, and information.
7. Influencer	Hindsight	Uses interpersonal skills to noncoercively affect the actions and decisions of others.
8. Consensus builder	Hindsight	Convinces other people to see the common good or different point of view.
9. Communitarian	Insight	Expresses concern about local social trends and issues and participates in civic and community activities.
10. Mission minded	Insight	Communicates how performance affects the mission. Is aware of how their own attitude affects people's perception of who they represent.
11. Appreciates diverse ideas	Insight	Works to provide opportunities for individuals with different ideas or experiences to interact in a nondiscriminatory manner regardless of minority/diversity status.
12. Multicultural leader	Insight	Noncoercively influences the behaviors and attitudes of ethnically diverse people or groups.

Context-Rich Decision Making

The 3D-thinking component, the appropriate use of hindsight, insight, and foresight, of CI has been reported to be the most important leadership capability needed for the VUCA world.[28] The reason for that may be that many decisions, clinically and personally, are lopsided, with disproportionate input from one of the three time orientations. Usually, hindsight is overemphasized. By practicing all three time orientations proportionately, the context becomes richer and our attention broadens to include useful inputs we may have previously been unaware of or even ignoring.

Within the CI framework, *hindsight* is described as the deliberate recalling of an experience(s) where the lesson(s) learned can be applied in the present. Developing hindsight requires realizing that very often the most familiar or accessible memories may have little or no connection to the current context. For example, solving a leadership problem you are facing may be hidden in an experience you forgot about or that may seem irrelevant. Getting to that point means realizing that what immediately comes to mind as the most appropriate intervention may be caused by availability bias and not sound clinical reasoning. Mitigating the threat of availability bias, which is the tendency to believe that what immediately comes to mind is representative of reality, when it is not, requires accurate hindsight. For hindsight to work, it must include input from external sources and may "feel" hostile or threatening as others challenge our recollections.

Insight is described as having an intuitive awareness of the values and needs of stakeholders and awareness of which skills and behaviors you possess that may satisfy those values. Developing insight involves discovering how tacit knowledge informs our assumptions and heuristics. Insight requires an honest and realistic appraisal of *why* you do what you do in different situations or with different people. It requires both an acute awareness of your capacity relative to what you can contribute and the needs of others. Getting to that point me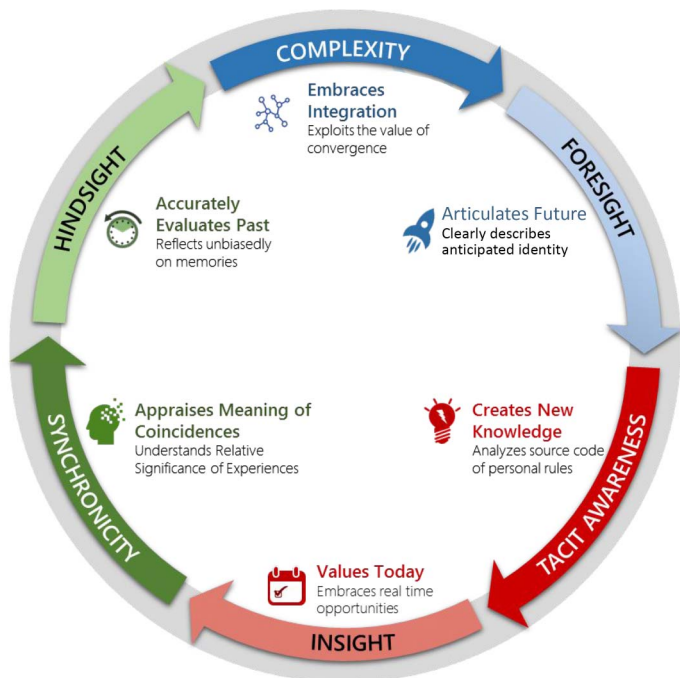ans pursuing an awareness of the significance of tacit knowledge, as opposed to explicit knowledge, in one's transition to practice and ongoing development.

Foresight is described as accurately anticipating how decisions and actions may affect (or change) the preferred future. Practicing foresight is about clearly articulating alternatives. However, this capacity goes far beyond the game of describing "what if" scenarios. Typically, scenario-based exercises are limited to what is known (known-knowns and known-unknowns); the emergent property of a VUCA world means there are unknown-unknowns and unknown-knowns, and this is where foresight thrives (see Figure 3). Getting to that point requires valuing complexity, not trying to avoid or reduce it, and seeking to identify additional variables that impact the desired outcome(s). Foresight is different from fantasy (i.e., the what ifs); while both are future oriented, foresight requires being able to clearly articulate the *why* and *how* of desired actions and potentials. Foresight that is filtered through hindsight produces the moments of insight that make one a great clinician and inspiring leader.

Implications for Athletic Training Education and Practice

VUCA's impact on clinical practice is a game-changing reality that completely alters the concepts of "mastery" and "expertise." In our new normal, the entire ecosystem in which we practice is constantly changing; as such, being ambivalent to the status quo sabotages the clinician's practice and the future of the profession. Educators must embrace the reality that the world of clinical education cannot be limited to teaching psychomotor techniques and competencies. Educators must actively engage learners in developing meta-skills (see Figure 1) and help those learners to formulate, create, and have confidence in skills they do not know they have or even know they need. Educational philosophies that do not include a heutagogical[*] framework (i.e., self-determined learning) cannot keep up with the pace of change required for clinical practice in a VUCA world. The survival of athletic training and therapy depends on the willingness of educators to "recognize" leadership within a CI framework (see Figures 2 and 4), instruct with the knowledge that our clinical classrooms are preparing
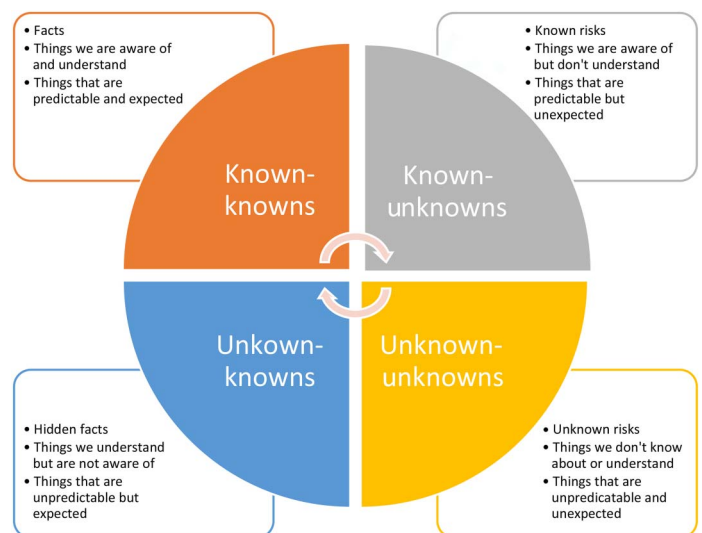

Figure 2 — Contextual Intelligence Circumplex™.

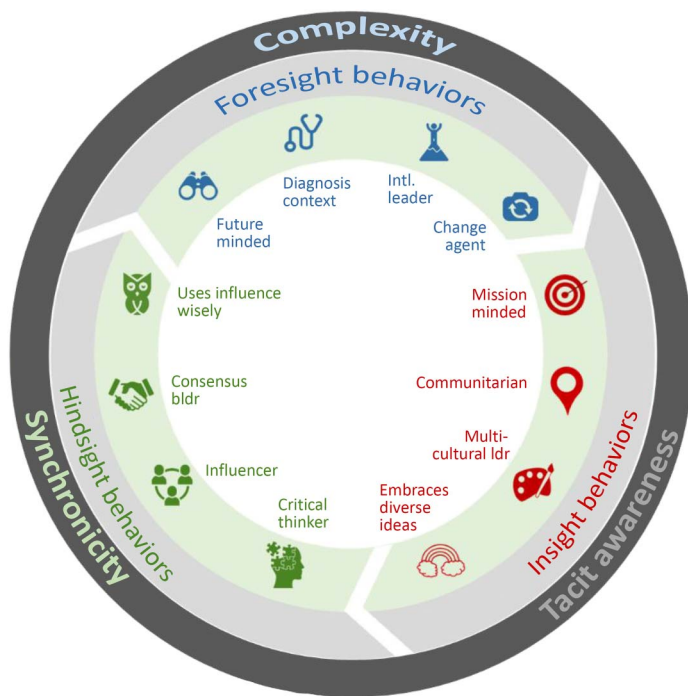**Figure 3** — Unknown-unknown window.

Figure 4 — Twelve behaviors of contextual intelligence.

students for engaging emergent environments that are alive, and recalibrate and restructure themselves when perturbed. A call must go out and be answered to make our instruction contextually intelligent.

Conclusion

The health care world that athletic trainers are moving into has changed dramatically. With that change, "advanced" nonclinical skills are prerequisites for success. These nonclinical skills with clinical significance are required to navigate VUCA and can position athletic training and therapy to be valuable and contributing members to a changing environment. These new skills must be integrated early and often in professional education and clinical practice and include recognizing leadership and practicing CI and 3D thinking. By integrating CI into our practice habits, we can make decisions that become context-rich and have a better opportunity to make meaningful decisions that add value to our patients, our careers, and our profession.

Note

*Heutagogy is self-determined learning (note: not self-directed) that is exclusively learner-centered and emphasizes the development of autonomy, capacity, and capability.

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