

Reframing the Human Dimension

Gardner’s “Five Minds for the Future”

Col. Nicholas Marsella, U.S. Army, Retired

The U.S. Army recognizes the importance of the human dimension as a key ingredient for success in the twenty-first century. The human dimension is defined in part as the cognitive, physical, and social components and performance of soldiers, Army civilians, and leaders essential for successful unified land operations.¹ The Army has conducted numerous human dimension workshops and seminars over the years—followed by the publishing of a myriad of reports, studies, and concepts.

What these studies and concepts often do not adequately do is provide clarity to the problems surrounding defining and facilitating the desired soldier and leader competencies. Secondly, they often make aspirational claims that are hard to define or assess such as “embedding a learning expertise and culture within units” or “strengthening and accelerating the progression to critical and creative thinking.”² Albert Einstein is often quoted as saying, “Everything should be reduced to its simplest form and then no further.” While the human-dimension components of the “cognitive, physical, and social” is a useful “bumper sticker,” it may be too simple to describe what we are trying to achieve.

What this article offers to the community is an alternative approach, or framework, for considering the competencies we desire to enhance in the force by using Howard Gardner’s 2008 work, *Five Minds for the Future*.³ Gardner’s work can inform Army thinkers who, like those in education, face the challenge of determining the competencies and outcomes they want to achieve to prepare their clients for success.

Gardner’s Concept in a Nutshell

Howard Gardner is a professor of cognition and education at the Harvard Graduate School of Education. He has a PhD in developmental psychology, and he is perhaps best known for his theory of multiple intelligences. Yet, it is concepts found in *Five Minds for the Future* that may offer insights to reconceptualize and reframe the Army’s thinking about the human dimension.

Like the defense community, Gardner acknowledges many of the changes and advances in such areas as science, automation, and globalization that affect society and the individual. He acknowledged the speed with which new knowledge is being created across disciplines and fields requiring one to continually “self-educate.”⁴ The implications of this growth of new knowledge on the Army’s educational system may be profound, perhaps resulting in more frequent, shorter, and more focused resident

and nonresident educational opportunities as well as the fielding of new learning technologies to support self-study and collective training.

Gardner noted the Army's concept of work will be transformed—requiring teams of individuals from different localities, disciplines, and fields to converge on a problem. Team members will build on each other's knowledge using computer-assisted decision-making tools and unique techniques for thinking, to include design and system thinking, to create novel solutions. Many of these workplace implications are well known to the Army and “teams of teams” are commonplace in solving many of the Army challenges.

Acknowledging the future environment, Gardner postulates there are five minds that must be cultivated for success in the twenty-first century. These five minds are the *disciplined mind*, *synthesizing mind*, *creative mind*, *respectful mind*, and *ethical mind*.⁵ For Gardner, the development of each mind is equally important.

The Disciplined Mind

The word “discipline” has three connotations, namely the mastery of a field of study, the ability to exercise a self-control for self-study, and the mastery of a way of thinking that is tied to the field of study.⁶ While recognizing the importance of accumulating knowledge to attain mastery, which may take five to ten years, Gardner notes mastery is more than simply being capable of regurgitating memorized facts and rules.⁷

Gardner acknowledges mastery takes time, requires instructors who model applicable ways of thinking and provide opportunities for critical thinking, successful completion of certain signature assignments, and a culminating experience.⁸ Mastery demands lifelong learning to absorb new knowledge that is continually added, refined, and transformed.

The discipline for mastery for soldiers is the profession of arms: the study of war and warfare. The Army makes a considerable investment in soldier training and professional military education toward mastery of the discipline associated with each soldier's career field and specific level of responsibility. Experience, time, and subsequent education enable the individual to master skills and knowledge at increasingly higher levels, but for the military professional, that may not be enough.

Using Isaiah Berlin's analogy of foxes and hedgehogs, the disciplined mind is akin to the hedgehog who knows one thing and views the world through the lens of

Col. Nicholas R. Marsella, U.S. Army, retired, is currently a Department of the Army civilian, serving as the director of Training and Doctrine Command (TRADOC) Devil's Advocate Red Team. Currently a doctoral student in the School of Education of the College of William and Mary, he holds an MA from Villanova University and an MS in education from Old Dominion University, and is a graduate of the Army War College.

a single defining idea or discipline.⁹ But this type of thinking is not enough. We need to develop the fox who knows lots of little things and has the ability to cope with uncertainty and look at the problem *critically* through multiple lenses.

The Synthesizing Mind

Gardner asserts that in the twenty-first century, the most valuable mind will be the synthesizing mind.¹⁰ In essence, synthesizing implies one has the ability to survey the ever-growing accumulation of information from across the disciplines or areas under study, separate the important from the unimportant, formulate and consolidate disparate information into a new whole, understand the big picture, and communicate the syntheses in an understandable form to others.¹¹ This synthesizing process can result in a new concept or idea, a solution to a problem, or a new insight.

As noted by Gardner, the synthesizer must be willing to test his initial synthesis with others—essentially advocating a process of “red teaming”—that provides a critical eye on the product to help refine it and test its accuracy. The effective synthesizer must be able to know enough about other disciplines to assess what is valuable or whom to trust, value constructive challenge, and possess the ability to discern fact from fantasy or illusion.¹² Effective critical-thinking skills enable the synthesizer to examine their thinking, perspectives, and assumptions.¹³

Successful problem solving in complex environments demands the development of the synthesizing mind. Today, even junior officers require at least multifunctional and multiperspective awareness. For example, the success of many complex military tasks, such as a river crossing, rests not on the sole expertise of one individual but rather on recognizing the multitude of tasks required and then effectively coordinating and synchronizing the multiple contributions needed from across the warfighting functions and domains.

At successive levels of complexity in planning, solutions require synthesis across warfighting functions, domains, and organizations (e.g., multinational and across the U.S. government).

Increasingly, the future will belong to the leader who can gain a broad and deep view of the environment or problem using both linear and nonlinear constructs. This deep perspective can only be developed and improved over a lifetime of study both in formal educational and training programs and in self-study and reflection on one’s experiences.¹⁴

The Creative Mind

Gardner notes creativity was the product of temperament combined with mastery of one or more disciplines and an ability to synthesize.¹⁵ Creators and innovators

are continually dissatisfied, seeking better answers and offering different questions. Innovators want to extend knowledge and shake up the status quo—often created by the synthesizers within society.¹⁶ Yet, it is important to note, “no society can be composed solely of creators—since they are by nature destabilizing.”¹⁷

To respond to changes in operational environments, the development and nurturance of innovators is a critical requirement, especially to solve “wicked” or ill-structured problems where information and problem definition are difficult to define and gain agreement on.¹⁸ The challenge is not so much to create inventors who develop new things, but rather it is to develop talented creative thinkers who can define problems in clear language to others; who encourage and create the conditions for teams to seek out new and innovative solutions to problems; and who can manage the process of innovation. As the Army’s future operating concept highlights, innovation is the result of critical and creative thinking and the conversion of new ideas into valued outcomes not confined to any organization.¹⁹

Developing the creative mind requires the Army to reexamine its education and leader development programs. These programs need to address innovation theory and best practices rather than simply defining the requirement for innovation sprinkled with a few historical examples of successful innovation. It requires the teaching of tools on how leaders of ad hoc teams can solicit and foster teamwork from across the organization to work on a problem using various techniques like design thinking and other techniques that facilitate and respect divergent views.

The Respectful Mind

Gardner recognizes the power of “tribal instincts” that often results in viewing what is considered “strange or unfamiliar” as bad.²⁰ Gardner calls for respecting others and valuing those whom belong to other groups. He placed emphasis on the importance of role modeling respectful behavior, especially among leaders.

Given the diversity found in the Army, maintaining respect and trust among individuals is paramount to building effective teams. The Army is not immune to toxic individuals and leaders who berate and belittle others. Leaders must not only *emphasize* the importance of dignity and respect but also *model* this behavior and counsel those who don’t live up to Army standards. The Center for the Army Professional Ethic is leading the Army’s effort to develop a concept for the character development of soldiers and Army civilians which emphasizes the respectful mind as a key ingredient to good character.²¹

Effective leaders view diversity as an organizational strength. As noted by University of Virginia Professor Martin Davidson, diversity enables us to better solve problems. In leveraging diversity we create the conditions where different thoughts, identities, and perspectives are present, which results in the stimulation of more complex and innovative ideas to achieve greatness.²²

With global responsibilities, the U.S. Army operates in many nations and cultures. While the Army must create deep country and regional knowledge among select individuals and units, it must also develop cross-cultural competency in all soldiers. While we may not understand or agree with certain customs, we must inculcate an attitude of respect while acknowledging these differences.

The Ethical Mind

Gardner's discussion of the ethical mind is intentionally broad given its focus on the larger aspect of life, namely doing work that is excellent, ethical, and engaging, and that benefits the community and society as a whole.²³ He addresses the ethical mind's linkage to character and to living an ethical life. Gardner encapsulates his idea into the term "habits of mind," whereby ethical behavior and decision making are ingrained in what and how we do things.²⁴

Ethics governing right and wrong conduct are embedded in the Army profession. Army Doctrine Publication 1, *The Army*, highlights the challenges warfare places on the morals and ethics of soldiers in the management of violence.²⁵ As noted by Paul Robinson, effective fighters are ethical fighters, and immoral behavior, even by the lowest ranking soldier, can have a strategic effect with far-reaching consequences.²⁶

As members of the profession of arms, each soldier and Department of the Army civilian adheres to the "Army Ethic," which is the body of principles and values governing the profession. Included in this ethic is the requirement to be

- ◆ professionals of character (i.e., serving with integrity and respecting the dignity and worth of all people),
- ◆ competent professionals committed to lifelong learning and professional development, and
- ◆ stewards and committed professionals of the Army profession.²⁷

Leaders must model and live the Army Ethic. Organizational procedures need to be examined in the light of how they might foster unethical behavior.²⁸ Soldiers and Army civilians need effective, student-focused training using case studies. Field training must include the types of challenges they might face not only from the Law of War framework but from a broader ethical standpoint.

As one respected professor of ethics notes:

People say you can't teach ethics, and I say, "You know, you're right." What I can do is I can point out to you how your behaviors—every one of them—have an ethical, moral dimension. People judge you as to whether you tell the truth, keep your promises, respect others and treat people with fairness. Whether you like it or not, people judge you on one or more of those four dimensions in everything you do.²⁹

Mind of a Leader and Follower

Gardner recognized other minds might exist beyond his five minds paradigm. For the Army, the development of soldiers to think and act as leaders and to be effective followers is essential.³⁰ As noted in the *Army Posture Statement 2016*, leader development is especially critical as one of the four components of readiness to maintain an Army prepared to win the Nation's wars.³¹

The Army grows its own leaders.³² Over their careers, leaders must gain self-awareness of their abilities and shortfalls, learn theory and techniques of how to lead from history and from contemporary practitioners, and continually self-reflect. Leaders must understand the tenets of mission command, the importance of communication, how to create a shared vision, and the importance of organizational culture.

Surprisingly, given the symbiotic relationship between leaders and followers, the development of followership appears to be less appreciated among Army professionals. The assumption often made is that if one has been an effective leader, one will be an effective follower. But, just as one can grow in leadership abilities, one can grow in the ability to be a more effective follower. The development of interpersonal skills (raising one's emotional intelligence) is just as important to a follower as they are to a leader.

Closing Thoughts

Recently, Gen. Mark A. Milley, chief of staff of the Army, cautioned us to examine and challenge every assumption, claim, and assertion we have or make, and exhorted us to be open minded to change as we face the challenges of the future.³³ A similar attitude is needed for reexamining the Army's human dimension concepts and ideas, especially in light of the dynamic nature of technology, educational and demographic trends, and other key variables found in the contemporary and future operational environments.

While the Army's focus on the cognitive, social, and physical dimension is not off the mark, the advantage of Gardner's five minds paradigm is that it may enable us to better visualize not only the requirements but the outcomes we want to achieve.³⁴ This focus on the "minds," where individual actions, thoughts, feelings, and behavior are created, does not discount the importance of the physical (e.g., sleep and fitness) and social (e.g., ability to work with others) components.

Creating soldiers and leaders who are ethical masters of the profession of arms and can lead and respectfully serve others while being innovative problem solvers is a tall order. Yet, the consequences of not developing these minds will spell the difference between success and failure. As Gen. Pete Schoomaker, a former chief of staff of the Army, noted in his departure remarks:

We must never forget that war is fought in the human dimension. Therefore, technology will always play an important but distinctly secondary role,

because even our most sophisticated satellites and computers cannot get into the mind of the enemy, interact with local leaders, understand other societies and cultures, or make the instantaneous life or death decisions required to meet our twenty-first century challenges. Men and women with their “boots on the ground” are necessary to do all this.³⁵ ❧

This article reflects the opinion of the author and not the position of U.S. Army Training and Doctrine Command, the U.S. Army, or other agency.

Notes

1. U.S. Army Training and Doctrine Command (TRADOC) Pamphlet (TP) 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World* (Fort Eustis, VA: TRADOC, October 2014), 42, accessed 3 April 2017, <http://www.tradoc.army.mil/tpubs/pams/TP525-3-1.pdf>.

The human dimension is defined as “the cognitive, physical, and social components of Soldier, Army Civilians, leader, and organizational development and performance essential to raise, prepare, and employ the Army in unified land operations.”

2. TP 525-3-7, *The U.S. Army Human Dimension Concept for the Human Dimension in Full Spectrum Operations 2015-2024* (Fort Eustis, VA: TRADOC, 11 June 2008), 13. Volumes have been written on critical and creative thinking and how difficult it is to define, teach, and assess these higher order thinking skills.

3. Howard Gardner, *Five Minds for the Future* (Boston, MA: Harvard Business Press, 2008).

4. Gardner, “Five Minds for the Future” (presentation, International School of Geneva Ecolint Meeting, Geneva, Switzerland, 13 January 2008), accessed 4 April 2017, <https://howardgardner01.files.wordpress.com/2012/06/five-minds-for-the-future-january-20081.pdf>.

5. Gardner, *Five Minds*, xv. In the past, joint doctrine contained similar language that included the term “cognitive dimension,” which encompasses the mind of the decision maker and the target audience toward whom they think, perceive, visualize, and decide. See Joint Publication 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office [GPO], 2008), II—21 (obsolete).

6. *Merriam-Webster*, s.v. “discipline,” accessed 10 April 2017, <https://www.merriam-webster.com/dictionary/discipline>.

7. Gardner, *Five Minds*, xviii. This estimate of five years is similar to Malcolm Gladwell’s estimate contained in his book *Outliers* (New York: Little, Brown, 2008). Gladwell provided the oft quoted “10,000 hour rule,” which is the time it takes of practice to become an expert. Both authors acknowledge that their estimates applied primarily to the cognitive activities of life and don’t account for natural talent or abilities. This talent issue is particularly true in physical activities (e.g., inherent ability to throw a baseball). Gladwell’s estimate of 10,000 hours = 8 hours a day of practice x 5 days a week = 1250 days/250 weeks/4.8 years. See Eric Levenson, “Malcolm Gladwell Defends Disputed ‘10,000 Hours’ Rule,” *The Atlantic* online, 22 August 2013, accessed 4 April 2017, <http://www.theatlantic.com/entertainment/archive/2013/08/malcolm-gladwell-defends-disputed-10000-hours-rule/311884>.

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8. Gardner, *Five Minds*, 31. The literature is full of references highlighting the importance of critical thinking, yet there is wide diversity of definitions; the required and associated skills; and pedagogies to assist students to become “critical thinkers.”

9. Isaiah Berlin, *The Hedgehog and the Fox: An Essay on Tolstoy's View of History* (Princeton, NJ: Princeton University Press, 2013).

10. Gardner, “The Five Minds for the Future,” *Schools: Studies in Education* 5, no. 1/2 (Spring/Fall 2008): 18. Given the advances in artificial intelligence and the availability of information, the need for synthesis in order to create new knowledge from information will become more important.

11. Gardner, *Five Minds*, chap. 3.

12. One of the most critical challenges in the twenty-first century will be discerning and judging what is valuable and true. For example, a Pew study in December 2016 noted that more than 80 percent of those surveyed noted they could very well or somewhat well determine what information is trustworthy. See John B. Horrigan, “Information Overload,” Pew Research Center website, 7 December 2016, accessed 10 April 2017, <http://www.pewinternet.org/2016/12/07/information-overload>. Conversely, others have highlighted the challenge for many to discern fake news from real news. See Wynne Davis, “Fake or Real? How to Self-Check the News and Get the Facts,” NPR website, 5 December 2016, accessed 4 April 2017, <http://www.npr.org/sections/alltechconsidered/2016/12/05/503581220/fake-or-real-how-to-self-check-the-news-and-get-the-facts>. Scholars are also challenged to discern the accuracy of studies, which is one of the reasons doctoral students spend significant course work in research methodology courses.

13. While defining and gaining consensus on the definition of critical thinking is difficult, based on the author's reading, these competencies are essential to being a critical thinker.

14. A broad and deep view using multiple constructs will be increasingly important for the twenty-first century. As the futurist Alvin Toffler highlighted in 1970 in *Future Shock*, the illiterate of the twenty-first century will not be those who cannot read and write but those who cannot learn, unlearn, and relearn.

15. Gardner, “The Five Minds for the Future,” 20.

16. Gardner, *Five Minds*, 98. For another but similar form of characteristics necessary for innovation see David Horth and Dan Buchner, “Innovation Leadership: How to Use Innovation to Lead Effectively, Work Collaboratively, and Drive Results,” *Center for Creative Leadership (CCL)* (white paper, Greensboro, NC: CCL, 2008), accessed 4 April 2017, <http://www.ccl.org/wp-content/uploads/2015/04/InnovationLeadership.pdf>.

17. Gardner, *Five Minds*, 99.

18. Army Techniques Publication 5-0.1, *Army Design Methodology* (Washington, DC: U.S. GPO, July 2015); Jeff Conklin, “Wicked Problems and Social Complexity” (white paper, Napa, CA: Cognexus Institute, 2006), accessed 13 April 2017, <http://www.cognexus.org/id42.htm>; TP 525-5-500, *Commander's Appreciation and Campaign Design* (Fort Eustis, VA: TRADOC, 2008).

19. TP 525-3-1, *The U.S. Army Operating Concept*, 20.

20. Gardner, *Five Minds*, 104.

21. Details on the Center for Army Professional Ethic can be found at their website, <http://cape.army.mil>.

22. Martin N. Davidson, "The End of Diversity: How Leaders Make Differences Really Matter," *Leader to Leader Journal* (Spring 2012), accessed 4 April 2017, <http://www.leadertoleaderjournal.com/sample-articles/the-end-of-diversity-how-leaders-make-differences-really-matter.aspx>. For more details see Davidson, *The End of Diversity as We Know It* (San Francisco, CA: Berrett-Koehler Publishers, 2011). See also Alan S. Berson, "Profiting from Diversity: Leading 'Purposely Mis-matched' Teams to Success," Wharton@Work, Nano Tools for Leaders website, July 2016, accessed 4 April 2017, <http://executiveeducation.wharton.upenn.edu/thought-leadership/wharton-at-work/2016/07/profitting-from-diversity>.
23. Gardner, *Five Minds*, 127. Chapter 6 outlines his focus on the larger community and society.
24. *Ibid.*, 150.
25. Army Doctrine Publication (ADP) 1, *The Army* (Washington, DC: U.S. GPO, 6 August 2013), 2-19.
26. Paul Robinson, "Ethics Training and Development in the Military," *Parameters* 37, no. 1 (Spring 2007): 25.
27. Center for the Army Profession and Ethic (CAPE), *The Army Ethic White Paper* (West Point, NY: CAPE, 11 July 2014), 11, accessed 10 April 2017, <http://cape.army.mil/repository/white-papers/Army-Ethic-White-Paper.pdf>.
28. Leonard Wong and Stephen J. Gerra, *Lying to Ourselves: Dishonesty in the Army Profession* (Carlisle Barracks, PA: U.S. Army War College Press, 2015).
29. Jacquelyn Lazo, "Alec Horniman: Change Agent," *The Darden Report* (Fall/Winter 2012), 17.
30. While the focus is on soldiers, this does not preclude the leadership development of the civilian cohort as well.
31. Patrick J. Murphy and Mark A. Milley, *A Statement on the Posture of the United States Army 2016*, presented to the 114th Congress, 2nd sess. (Washington, DC: Department of the Army, March-April 2016), 6, accessed 10 April 2017, https://www.army.mil/e2/rv5_downloads/aps/aps_2016.pdf. The four components of readiness are manning, training, equipping, and leader development.
32. ADP 6-22, *Army Leadership* (Washington, DC: U.S. GPO, 2012). Doctrine defines an Army leader as anyone who by virtue of assumed role or assigned responsibility inspires and influences people to accomplish organizational goals.
33. Rick Maze, "Radical Change is Coming: Gen. Mark A. Milley Not Talking about Just Tinkering around the Edges," Association of the U.S. Army website, 13 December 2016, accessed 5 April 2017, <https://www.usa.org/articles/radical-change-coming-gen-mark-milley-not-talking-about-just-tinkering-around-edges>.
34. Valerie L. Denomy and Michael Perry, "Education for the 21st Century: Executive Summary," Harvard University Advanced Leadership Initiative Think Tank (Cambridge, MA: Harvard Advanced Leadership Initiative, 2014), accessed 5 April 2017, http://globaled.gse.harvard.edu/files/geii/files/2014_education_report_web.pdf. This initiative posed a similar question: Are schools teaching for what is needed at work and to live fulfilling lives (cognitive, interpersonal, and intrapersonal skills)? This group consisted of experts from across the disciplines to identify the essential skills for the twenty-first century.
35. Gen. Peter J. Schoomaker, "Farewell Message from Gen. Peter J. Schoomaker," Army website, 6 April 2007, accessed 5 April 2017, <https://www.army.mil/article/2565>.