By CW2 John R. Fitzmaurice

# Differentiating Aeronautical Knowledge for Multiple Intelligences

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Institutional knowledge is beyond what can be captured by any training manual or publication because it demands the presence of the human element. Just as our aircraft demand that same human element, it is the collective knowledge and expertise humans provide that allow for their safe operation. The evanescing of individuals carrying the lessons learned forged in the Global War on Terror are causing a dangerous gap in experience (Judson, 2024). So then, how do we preserve, perpetuate, and grow institutional knowledge to fill the gap? I propose that we take a page out of American cognitive psychologist and author, Howard Gardner's book, *Frames of Mind: The Theory of Multiple Intelligences* (1983). Howard Gardner's theory of multiple intelligences (MI) could very well be a key factor in allowing us to maximize our potential as Army Aviation so we can truly rise to our motto of "Above the Best." Through my own experience, I know this is possible by first identifying the type of intelligence an individual possesses. In conducting tactical training just this week, I made the effort to collaborate alongside a junior pilot in planning a mission because I recognized that they were of an interpersonal intelligence and would grow faster from collaboration. With that said, it must be understood what types of intelligences there are.

While Gardner was not the first to theorize MI's existence, he was the first to clearly distinguish them throughout the late 1970s and 80s (Davis et al., 2011, p. 487). These additions resulted in a total of nine identified intelligences (Margolis et al., 2022). Divided into linguistic, logical-mathematical, spatial, musical, naturalist, existential, bodily-kinesthetic, interpersonal, and intrapersonal, these profiles of intelligence establish a basis of learning for the individual (Margolis et al., 2022). The individual's preference is being driven and depends on the domain or discipline in which they find themselves. These expand greatly from the generic VAK (visual-auditory-kinesthetic) model[1] reintroduced throughout our military education.

It is easy to forget that many of the aviators in the Army have no previous aviation education but are instead multidisciplinary in their secondary and post-secondary educational endeavors. What does that mean to me as an instructor? As a commander? As a course developer? It means that the pilot just out of flight school has received about a quarter of the amount of instruction and experience than they received during their undergraduate studies. The experience obtaining that degree, as well as any occupational follow-on experience, will ultimately be the basis for the law of primacy[2] as to how that individual learns (Terada, 2018). If that individual's education was in environmental sciences, they may well be a naturalist learner and if it was in music education, they may be a musical learner, and so on.

As our formations welcome new aviators, we need to approach them understanding that the VAK model does not accommodate everyone. Rather than attempting to have them try to fit into that cookie cutter model, we should instead welcome new methods of instruction and understanding. This will ultimately elevate the fighting force, as stimulating growth in an individual's learning profile will allow them to combine it with learning the aviation discipline. This is how we grow leaders, by inspiring diverse critical thinking and allowing multiple avenues toward a solution to be developed (Morgan, 2021, p. 138).

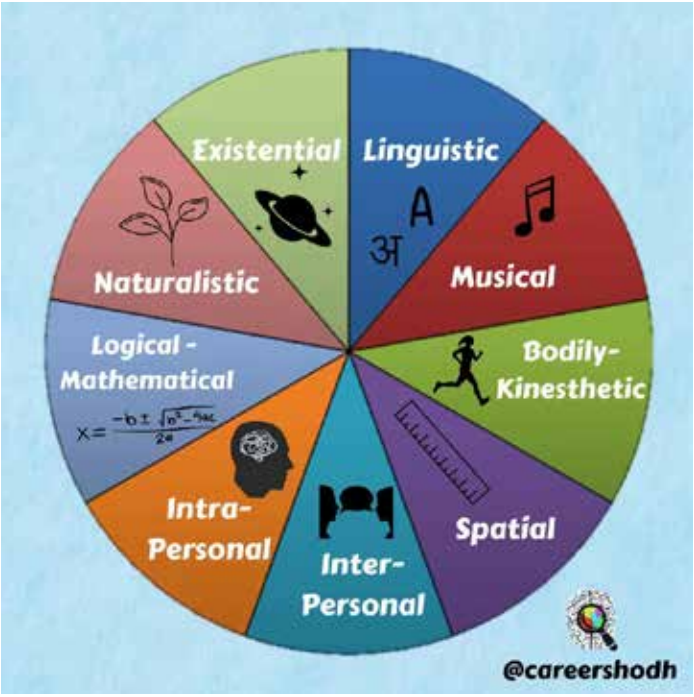
Implementation of an MI approach to learning requires stepping into some uncomfortable territory for current leaders. It requires you to get to know your people. This is more than just asking, "How was your weekend? or "How ya doing?" It demands one to learn the stimuli that another responds to and what stimuli they respond to best. It requires posing critical thinking questions and witnessing the route the individual takes to arrive at a solution. You, as a leader, must then process what you observe and take advantage of what the individual did well or improved upon. This is in stark contrast to the majority of after-action reviews we experience, as with this learner centric approach we must first identify the "sustains" (water and nurture the good, *then* hack the bad to bits).

Improving the habits and knowledge base that we identify as "good" within our field can be accomplished by tailoring instructional blocks to the learner. A leader should understand that someone who is an existential learner and wants to know the "Why" may only need to be given a manual on how an aircraft system works. In juxtaposition, the leader should also understand that an intraper-

[1] "The VAK Learning Styles Model was developed by psychologists in the 1920s. It indicates the most common ways in which people learn and consists of three classifications, namely the Visual, Auditory, and Kinesthetic learning styles" (Mulder, 2023).

[2] "The law of primacy refers to one of the laws of learning identified by Edward Thorndike. This law of learning states that first impressions of information will be the most pervasive and longest lasting" (Arora, 2024).

sonal learner may need space and time to correlate how their actions relate to that of the aircraft, creating a zen-like mesh where the aircraft becomes an extension of the individual. These successes in learning through methods that the individual is comfortable with can serve as building blocks transitioning that individual to develop via intelligences other than their dominant one. This is difficult water to tread though, as research by Lev Vygotsky on the zone of proximal development[3] proves (Davis et al., 2022, p. 238; Morgan, 2021, p. 133). Vygotsky's research results identify that there is a point at which nothing can be attained from a learning experience if presented poorly (Davis et al., 2022, pp. 238–239; Morgan, 2021, p. 133). Vygotsky's work and observations of the brain proved that certain chemical releases must occur, driven by stimuli that challenge the individual but do not overwhelm them (Davis et al., 2022, pp. 238–239; Morgan, 2021, p. 133). The goal then is to tailor an experience and environment fostering the creation of a zone of proximal development that is neither too challenging nor too simple (Davis et al., 2022, pp. 238–239; Morgan, 2021, pp. 133–134). The difficulty in creating this zone of proximal development is that it is subjective to the instructor creating it. This is generally why we can learn better alongside certain individuals, but among others it is almost impossible. As instructors, the ability to perceive how someone learns is the key aspect to all of this, as without that ability, little learning can be accomplished.



Gardner's Theory of Multiple Intelligence. Graphic retrieved from careershodh.

With our view of each other being subjective, it is important to recognize that Gardner's MI is not meant to be a way to label an individual (Davis et al., 2011, p. 496). We must understand that individuals are of various intelligences and may rely on certain experiences to be learned via one of those specific avenues, while another learning experience may be processed via several of them. Our perception of the way someone learns is through observing that individual when provided multiple ways to access information. Their choices in how to access and manipulate that information should drive how we differentiate our instruction to them (Terada, 2018). What is vital to ensuring another's success is providing them those multiple points to access information. Reality tells us that this is not always possible; however, every effort should be made to differentiate information and instruction for each individual in our formation. To tear down any barriers to learning, we must live up to being our brothers and sisters keeper and continue to strive to understand how they learn. I believe that our collective recognition of MI theory as leaders across the Army Aviation Enterprise is critical to our future success. Sometimes we seem to know more about our enemies than each other. Perhaps it's time we invested a similar level of effort in understanding and strengthening our collective intelligence.

Biography:

CW2 John Fitzmaurice is an instructor pilot currently assigned to 1st Combat Aviation Brigade, Company A, 2-1 General Support Aviation Battalion at Fort Riley, Kansas. He has served in the U.S. Army for 10 years and has had a diverse range of assignments while in the service. Starting his career in the Army Band field, he transitioned to Army Aviation after experiences while deployed to Bagram Airfield, Afghanistan. Prior to service in the Army, he served as a music educator in the public schools, as well as instructing collegiately. He currently instructs in the UH-60L platform at Fort Riley, with prior UH-60L experience attained while stationed at Fort Benning, Georgia, as part of the 4th Ranger Training Battalion.

[3] Proximal development "refers to the range of abilities an individual can perform with the guidance of an expert, but cannot yet perform on their own" (Cherry, 2023).

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