

Combat Art: An Avant-Grande Approach to Developing Critical Thinkers

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Abstract: Combat art—in this case, paintings and sketches created by Marines and drawn from lived combat experience—is a unique form of fine art. A body of research suggests that studying fine art can develop critical thinking skills that transfer across numerous disciplines. For U.S. Marines, engaging combat art improves the critical thinking skills and creative problem-solving abilities needed to succeed in future wars. Moreover, as fine art created by Marines in war, combat art also prepares a Marine's mind for the physical and emotional realities of combat.

Keywords: combat art, fine art, critical thinking, creativity, creative problem solving, professional military education

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For future wars, there is a known requirement that Marines must prepare to possess: the mental ability to identify problems and create solutions. Success on the battlefields of the future will have its roots in the Marine's ability to think and respond to a situation. To prepare for future warfare, there is an opportunity for the U.S. Marine Corps to use its existing fine arts program, the Combat Art Program, to condition a Marine's mind for success.

Figure 1. Combat art prepares the mind for the art of war



Source: Robert Moir, *Rifleman-Okinawa*, watercolor on paper, accession number 156-1-1, National Museum of the Marine Corps.

This article argues that engaging combat art improves the critical thinking skills and creative problem-solving abilities that Marines need to succeed in future wars while also mentally preparing Marines for the realities of combat. It provides an overview of fine art, combat art, and the role of critical thinking in warfare. Using research from psychologists, educators, and medical schools, the author details how fine art analysis can transfer the critical thinking skills that Marines need to succeed in combat. Beyond critical thinking skills, this article describes how the unique features of combat art allow Marines to expose their minds to the emotional and physical realities of combat in preparation for war. It concludes with recommendations for how the Marine Corps can incorporate fine art into professional development.

Combat Art as Fine Art

Combat art is a form of fine art. In his book *Art of War: Eyewitness U.S. Combat Art from the Revolution through the Twentieth Century*, former combat artist and retired Marine Corps colonel H. Avery Chenoweth defines *fine art* as "focusing on the essence of a scene or situation in order to capture its universal quality or meaning."¹ In his book *Imagined Battles: Reflections of War in European Art*, Peter Paret notes that fine arts offer unique insights into capturing the essence of war. He suggests that the artist "must confront the physical or emotional reality of war, or both, to achieve a serious interpretation of the subject."² Engaging with fine art allows the viewer to experience the universal physical and emotional essence of a scene.

Combat art is a unique form of fine art that captures the artist's lived experience in war. Chenoweth describes *combat art* as "art done only in or from actually observed or experienced battle."³ Marine Corps combat artists are ideally situated to achieve a serious interpretation of warfare. As Marines first, they experience their subjects firsthand and are free to create works that capture the essence of the battles that the Corps fights. Engaging with combat art allows the viewer to experience the physical and emotional realities of the artist's experience in war.

Figure 2. Combat art captures the physical or emotional essence of a lived experience



Source: Robert Moir, *Flame-thrower, Okinawa*, watercolor on paper, accession number 156-1-4, National Museum of the Marine Corps.

The Role of Critical Thinking in Warfare

The nature of warfare demands critical thinking and creative problemsolving skills. In his magnum opus *On War*, Prussian military theorist Carl von Clausewitz describes *war* as a "realm of uncertainty."⁴ *Warfighting*, *Expeditions with MCUP* 4 Marine Corps Doctrinal Publication (MCDP) 1, notes that "war is intrinsically unpredictable."⁵ Uncertainty implies the role of chance; unpredictability suggests the limitations of probability. The subtle difference highlights Clausewitz's observation of the commander and the military's role in the paradoxical trinity of war, "the play of chance and probability within which the creative spirit is free to roam."⁶ The critical thinker is the embodiment of a creative spirit. To deal with uncertainty, Clausewitz describes the need for a skilled intelligence to seek the truth, which he refers to as a *coup d'oeil.*? *Warfighting* reinforces the role of a creative spirit, noting that "each episode in war is the temporary result of a unique combination of circumstances, presenting unique set of problems requiring an original solution."⁸ Seeking the truth from a unique set of circumstances and arriving at a novel solution demands critical thinking.

Critical thinking is the process of recognizing when there is a problem to solve and arriving at a solution. There are three features of critical thinking. First, the critical thinker recognizes a problem and generates a solution. They ask vital questions about a problem, assess the correct information to frame the problem, and come to a reasoned conclusion.⁹ Second, the critical thinker searches with an open mind for alternative thoughts and assesses their assumptions. Third, the critical thinker communicates effectively with others to determine solutions to the problem.¹⁰

Solving problems in war, however, requires more than just critical thought. The art of war requires a Marine to have the intuition to grasp the essence of a problem and the creativity to devise a solution.¹¹ Critical thinking frames a problem and identifies solutions. A Marine's creativity

increases the quality of those solutions. *Creativity* is the ability to bring something new and valuable into existence.¹² In the context of the art of war, creativity demonstrates the ability to generate a novel idea to arrive at an original solution for the unique set of circumstances that the unpredictability of war creates. Creativity, then, is an essential aspect of critical thinking and an equally important aspect of the art of war.

The nature of war is uncertain and unpredictable. Success in future wars will depend on Marines who have creative problem-solving skills, the ability to weigh evidence to make decisions, and the ability to communicate their thoughts. Fine art can develop these critical thinking skills.

How Fine Art Develops Critical Thinking

Fine art exposes the viewer to open-ended problem solving and requires them to question, speculate, analyze, fact-find, and categorize.¹³ In this way, fine art is a medium for developing and enhancing critical thinking skills. Research into the use of fine arts in education notes that critical thinking skills developed in fine art analysis have the potential to transfer between various subject matters. This is to say that the critical thinking skills developed from engaging with fine art can also apply in other disciplines. To illustrate the potential for fine art to develop and transfer critical thinking skills, this section details academic research in art education and the application of art education to develop critical thinking skills in other professions.

Cognitive psychologist Abigail C. Housen and her colleagues pioneered research on the potential of fine art education to enhance critical thinking. In a 2002 article published in the *Arts and Learning Research Journal*,

"Aesthetic Thought, Critical Thinking and Transfer," Housen documented the results of a five-year longitudinal study into fine arts education in elementary school students.¹⁴ The research used an education method called visual thinking strategies (VTS), which combines teacher training, museum visits, and guided discussions to engage fine art.¹⁵ The technique focuses on three simple questions: "What is going on here?"; "What do you see that makes you say that?"; and "What more can you find?"¹⁶

The study's findings suggest that VTS "causes the growth of critical thinking and enables its transfer to other contexts and content."¹⁷ Housen suggests that "while critical thinking takes root in one area, it has the potential to blossom in others."¹⁸ Fine art acts as a medium to exercise and develop critical thinking skills, which can then transcend fine art into other subject matters.¹⁹ One should suspect that a natural experiment exists in which there is evidence of critical thinking transferring in those who are exposed to fine arts most, such as college students majoring in art.

A 2006 study by art educator Nancy Lampert that appeared in *Studies in Art Education*, "Critical Thinking Dispositions as an Outcome of Art Education," compared college students majoring in the arts to those majoring in subjects other than the arts.²⁰ The study sought to determine if critical thinking is an outcome of learning in the arts. In the article, Lampert notes that art students routinely engage in "open-ended problem solving, critical inquiry, and reflection."²¹ In comparing art students to nonart students, Lampert discovered that the former scored higher than the latter in measures of truth-seeking, critical thinking maturity, and openmindedness.²² The implications of this research suggest that "art students [have] significantly higher discipline-neutral critical thinking dispositions" and that "art students [are] more inclined than the non-arts students to use thinking and reasoning skills when solving all problems, not only art-related problems."²³

Lampert's study suggests that the art student's exposure to openended problem solving, which she refers to as a "heuristic-based curriculum," may condition the mind to accept many possible solutions to a problem and think critically.²⁴ She recommends that for nonart students to make greater gains in critical thinking dispositions, they should receive more exposure to a heuristic-based curriculum.²⁵ Combining Lampert's recommendations with Housen's findings of critical thinking transfer from VTS, there is potential for one to develop critical thinking skills that can transfer across numerous disciplines to improve performance.

Medical schools put this theory to the test. Based on a 2020 literature review conducted by Yoseph Dalia, Emily C. Milam, and Evan A. Rieder and published in the *Journal of Graduate Medical Education*, "Art in Medical Education: A Review," 37 publications have discussed implementing art into medical education since 2001.²⁶ Overall, the literature suggests that "various methods of utilizing fine art to advance medical student and resident education appear to be effective. Incorporating art into medical education appears to improve visual perception skills, empathy, and personal reflection among students."²⁷ The researchers also note that medical students enjoyed the curriculum.²⁸ Among the various strategies employed by medical schools to incorporate fine arts into their curricula, VTS effectively employed both medical clinicians and art curators to lead the training.²⁹ The ability of nonart professionals to use VTS suggests that the method can benefit others to incorporate fine art analysis into professional

programs with little outside assistance.³⁰ Two studies that used VTS to develop a fine art curriculum for medical students are detailed below to highlight the benefits of fine arts in medical education.

In a 2005 article appearing in *Family Medicine*, "Visual Thinking Strategies: A New Role for Art in Medical Education," Jo Marie Reilly, Jeffrey Ring, and Linda Duke used the VTS developed by Housen to "stimulate critical thinking, teamwork, and critical learning in medical residents and faculty."³¹ The authors note the importance of image selection in VTS, arguing that it "is crucial to the overall teaching aims. The facilitator strives to choose images that people will be able to interpret without specialized knowledge."³² In using VTS to explore works of art, the experiment led participants to "move out of the realm of right answers and into the process of weighing and considering 'evidence'," which "fosters critical, creative, and flexible thinking."³³ Overall, the study of fine art appeared to increase team building as participants challenged each other to form ideas about the art.³⁴ In addition, the use of VTS appears to increase analytical thinking and listening skills as students interpret the images seen in the art.³⁵

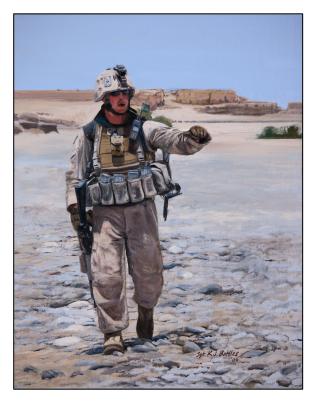
In a 2008 study published in the *Journal of General Internal Medicine*, "Formal Art Observation Training Improves Medical Students' Visual Diagnostic Skills," Harvard Medical School created an elective course, "Training the Eye: Improving the Art of Physical Diagnosis," to test the benefits of art education. The elective consisted of eight 2.5-hour seminars during which students first spent 75 minutes conducting an observation exercise and then listened to an hour-long lecture to link the visual arts concepts with physical diagnosis.³⁶ The authors found that "the attainment of visual skills that cross-subject content, in the current study, is consistent with the findings of prior educational research demonstrating that core principles of visual literacy transfer to problem-solving in other fields, such as reading, writing, and mathematics."³⁷ Participants in the elective were able to make more accurate observations than nonparticipants. Overall, participating medical and dental students had a 38-percent higher increase in clinical observations during patient examinations than did their nonparticipating peers.³⁸ Again using VTS in combination with fine art, the study confirmed previous research findings and demonstrated the ability of art education to transfer critical thinking skills to medical practice.

Overall, research into the use of fine art in medical education suggests that fine arts education can transfer critical thinking skills across various professional contexts. Incorporating fine arts into education programs can be accomplished with or without formally trained art educators by using VTS. Moreover, VTS, which asks only three questions, is a simple method that is scalable for widespread use among nonart professionals. Based on the benefits observed here in using fine art in a medical school curriculum, the Marine Corps can also use VTS to analyze fine art to increase Marines' critical thinking skills.

How Fine Art Develops the Critical Thinking Skills Marines Need

Fine art can prepare the mind for the art of war. This section examines how fine art analysis develops skills that transfer to warfighting. Research findings suggest that engaging fine art can transfer critical thinking skills across various disciplines to develop the skills Marines need to succeed in war. Specifically for the Marine Corps, research highlights the benefits of fine art engagement to transfer the following skills: analytical thinking; creative problem solving; weighing and considering evidence; visual, listening, and communications skills; and team building.

Figure 3. Engaging fine art can transfer the critical thinking skills Marines need to succeed in combat



Source: Kristopher Battles, *The Strategic Lance Corporal*, oil on canvas mounted on board, accession number KJB2009.11.2, National Museum of the Marine Corps.

Analytical Thinking and Creative Problem Solving

The unpredictable and uncertain nature of war presents unique problems that require original solutions. Each iteration of identifying information, determining meaning, and interpreting the results from fine art is an exercise in problem framing. Fine art analysis habituates Marines to process information and make decisions rapidly. Marines will need to take in all available information presented in the artwork to frame their interpretation of what they see. From those visual clues, they must formulate a question about what those depictions mean. A Marine's individual experiences will shape how they interpret what they see and why they see the artwork in such a way. Answering what they see and why they see it requires the Marine to develop a well-reasoned conclusion from their unique interpretation of the material. In each instance of a Marine's observation, they perform creative problem solving by using their individual experiences to interpret the artwork or presenting existing ideas in new ways. The Corps needs Marines who approach the uncertainty of combat armed with the mental processes to ask: "What do I see?"; "Why do I see it?"; and "What more can I see?"

The Corps also needs Marines who approach the uncertainty of future conflict with the creative problem-solving skills to innovate. Innovation stems from the creative process of developing unique solutions or presenting existing ideas in new ways. Engaging fine art conditions the mind to make creative associations between disparate pieces and drive an innovative mentality. Beyond the individual Marine, widespread adaptation of Marines engaging fine art conditions the Corps to develop an environment for the free exchange of ideas to drive innovation.

Weighing and Considering Evidence

In an environment of uncertainty and ambiguity, Marines must weigh the strength of their information and consider alternatives to make decisions in war. By weighing and considering the evidence in artwork, Marines approximate the decision-making process experienced in the friction and fog of war. There is no correct answer to fine art analysis, which promotes comfort in debating ambiguous material. In engaging with fine art, Marines must process a variety of visual cues to identify meaning and make an informed decision about what they see. The process of weighing information also requires the Marine to consider all the evidence available. Beyond what the Marine sees, they must understand how their assumptions and biases shape what they see. As Marines find meaning from form, they must confront the implications of their discovery and the consequences on their perceptions of the artwork. Fine art analysis conditions the Marine's mind to consider the imperfection of their understanding of the battlespace, the cognitive biases impacting their thoughts, and the need to act despite the limitations.

Visual, Listening, and Communication Skills

An essential part of evaluating evidence is collecting information and communicating solutions. Medical school research suggests that doctors can improve their visual diagnosis skills by engaging fine art. Likewise, Marines can increase their perception of the operating environment. An increase in visual acuity promotes noticing changes in the battlespace, exploring what lies behind the obvious, identifying new information, and processing the meaning of that information. The listening and seeing skills developed from fine art discussions reinforce the primary senses that a Marine uses to evaluate a situation in combat. Communication skills are necessary to share their observations with others to develop a shared situational awareness. In analyzing and considering the evidence presented in the artwork, Marines develop their visual acuity skills and attention to detail. The process of using VTS develops a Marine's ability to communicate their findings to others, as Marines must listen to and evaluate others' findings to synthesize with their visual observations. Fine art develops a Marine's ability to see and communicate solutions to complex problems.

Team Building

Engaging with fine art is a team event. Marines must listen to other perspectives, challenge others' assumptions, and communicate their findings to a group. Evaluating fine art is an exercise in working together to discover meaning and communicate perspectives. The collaborative problem-solving skills developed from fine art analysis build cohesive teams that work together to interpret an artwork's meaning. Likewise, the Corps needs Marines who can approach problems with divergent ideas, communicate their perspectives, incorporate feedback from the group, and advance their knowledge of a situation. The process of art analysis using VTS prepares Marines at all levels for planning military operations and working together to solve problems.

Analyzing fine art prepares a Marine's mind for war. The critical thinking skills used in engaging fine art can transfer the critical thinking skills Marines need to succeed in combat. Analyzing information, evaluating evidence, communicating findings, and working together will always be requirements for Marines. The Corps must expose Marines to fine arts to build these critical thinking skills. Fortunately for the Marine Corps, there already exists a formal fine arts program within the institution that is ideally suited for using VTS to enhance the critical thinking skills of Marines.

The Unique Strength of Combat Art as a Fine Art for Marines

Artists have been part of the Marine Corps since the Service's first combat operation in 1775.³⁹ As Marines first and artists second, these combat artists create timeless works of fine art. In capturing the universal essence of the moments experienced in war, combat artists possess a unique ability to impart insights otherwise unavailable in other forms of art. Like reading one of the great military history books, engaging with combat art can teach military professionals about the experience of war and what it means to be a Marine. While generations of Marines have known artists in their ranks, a formal combat art program did not exist until World War II. In the lead-up to that war, the U.S. Navy coined the title "combat artist" when it established the Combat Artist Corps (to which Walter E. "Walt" Disney was a contributor) in 1941.⁴⁰ The Marine Corps followed in 1942, using its Department of Public Relations.

From the beginning of the Marine Corps Combat Art Program, artists capturing Marines in action was not the focus. Instead, the artist's primary duty was to take part *in* the action. Marine combat artists are Marines first, which provides them unique exposure to their subject material. In 1943, Brigadier General Robert L. Denig, then serving as the Marine Corps' first director of public information within the Department of Public Relations, wrote that Marine combat artists "wear the uniform because they have earned the right to wear it, just has every Marine. They are Marines first, and artists, or anything else, second."⁴¹ As combatants, Marine combat artists were able to capture firsthand the realities of war, which was one of the primary goals for the Combat Art Program in World War II. Denig charged

combat artists to "record with the artist's eye the great and simple doings of men at war, to picture its action, its settings, its tragedy, its humor."⁴² The Marine combat artist lived the experience and then translated the moment to a medium for others to experience. The freedom to express moments captured in the war was essential for the strength of the Combat Art Program.

Figure 4. An untitled work by Kristopher Battles shows the "great and simple doings of Marines at War"



Source: Kristopher Battles, *Untitled*, oil on canvas, accession number KJB2014.11.5.6, National Museum of the Marine Corps

Marine combat artists are free to share their experiences uncensored. Artistic freedom is essential for accurately capturing the realities of combat in their artwork. From the beginning of the Combat Art Program, "Marine painters and sketchers [were] permitted to draw whatever they [saw], however they wish[ed] to interpret it, as long as it [didn't] affect national security."⁴³ This mentality continued into the Vietnam War era, during which the Marine Corps gave its combat artists "the greatest latitude possible in choice of subject matter, technique, etc."⁴⁴ This freedom to capture war as it was being experienced was not shared between the U.S. military Services. According to a 1967 *New York Times* article quoting a U.S. Army artist, "what the officers here want, essentially, is a handsome American soldier stepping out of a helicopter with an American flag in one hand and a slice of American pie in the other."⁴⁵ Contrast this quote to the Marine who said, "I'm certainly not boosting the Marines. I'll draw them like I see them."⁴⁶

The combination of using Marines as combat artists and offering them free expression to cover what Marines witness in wartime and in peace gives the Marine Corps Combat Art Program unique strengths. Marine combat artists possess firsthand experience with war and its harshest realities as combatants. Because they can cover what they choose, there is no need to censor their wartime experiences. As a result, the art that comes out of the program offers a rare opportunity to experience war at its most honest and is a valuable contribution to professional military development. As Brigadier General Denig said about the Marine Corps' combat art of World War II, "[These paintings] will remain after the war, fresh and vivid, as stirring public records of what our American fighting men saw and did."⁴⁷ Artistic freedom has allowed Marine combat artists to capture a timeless, universal essence of the realities of war—and it is this essence that makes the Marine Corps Combat Art Program so valuable to current and future Marines as they prepare for these realities.



Figure 5. A Marine in Vietnam drawn "like I see them"

Source: Isa Barnett, *Spoils of War*, pen and ink on rice board, accession number 15-6-3 1976.968.1, National Museum of the Marine Corps.



Figure 6. Vivid public records of what Marines saw and did

Source: CWO2 Michael D. Fey, *Grenade In: Corporal Guzman, Operation Steel Curtain*, accession number 2009.33.17, National Museum of the Marine Corps

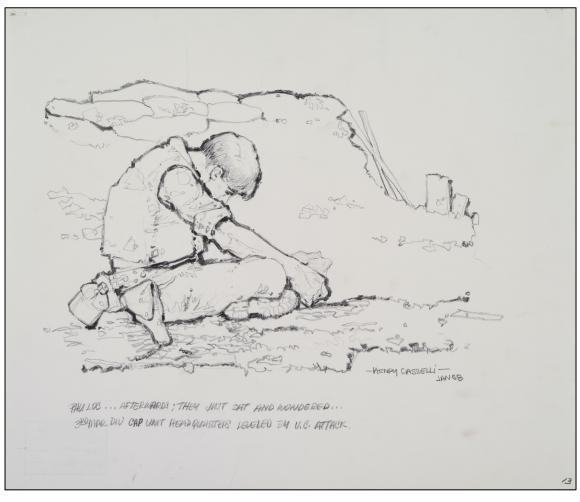
Combat Art's Role in Preparing for War

There is no substitute for lived combat experience when preparing for the realities of war. Clausewitz reinforces this point by saying, "It is immensely important that no soldier, whatever his rank, should wait for war to expose him to those aspects of active service that amaze and confuse him when he first comes across them. If he has met them even once before, they will begin to be familiar to him."⁴⁸ Combat art captures a Marine's lived experience in war and conveys the physical and emotional essence of the

moment to the viewer. Therefore, in addition to helping develop critical thinking skills, combat art provides insights into the experiences of combat and what it means to be a Marine.

Most combat art belongs to the art genre of realism, visually expressing the reality that an artist experienced.⁴⁹ The benefit of the realist style is that military professionals can identify with the visual images from their experiences. Identifying with the art is important for Marines to interpret and engage the artwork. When engaging with combat art, Marines confront eyewitness accounts of the experiences that other Marines faced in combat. The art challenges the Marine to understand what they see, why they see it, and what more they can find. As Marines analyze combat art, they witness the realities of their profession. Conversations between Marines during the viewing of artwork provides opportunities for seasoned Marines to coach junior Marines on the experiences of combat. In this way, combat art sensitizes and prepares Marines for combat. These works of art are visual aids to guide discussions about the realities of war. Therefore, in the absence of combat experience, combat art can prepare military professionals for future exposure to the realities of war. For the Marine, combat art offers timeless visual statements about experiences at war. As these are intangible benefits compared to critical thinking skills, it is true that combat art offers Marines multiple ways to develop their minds and apply the lessons in future challenges, whether in training or combat.

Figure 7. Combat art offers Marines a way to talk about their experiences and prepare for the realities of combat



Source: Henry C. Casselli Jr., *Afterwards,* pencil on paper, accession number 13-9-21, National Museum of the Marine Corps.

Marines can also apply the lessons of combat art to interpret their identities as Marines. Combat art is a medium for self-reflection. The art can serve as a nonfiction visual guide to what it means to be a Marine. In a 2010 *New York Times* article, former Acting Assistant Secretary of the Navy Anita K. Blair noted a unique focus of the Marine Corps Combat Art Program, saying, "When you go over to the Air Force . . . the art is all airplanes. In the Navy it's

all ships. Army art tends to be more about the battle, and the Army loves trucks. They're fixated on vehicles. But the Marine Corps is fixated on Marines."⁵⁰ By staying true to the program's intent to capture the simple doings of Marines at war—to include the action, settings, tragedy, and humor—combat art guides Marines through the essence of the Corps' experience. Marines will take note of the similarities of today's experience of being a Marine to the experience shared by those across generations, from working parties, to card games, to combat. Modern-day Marines can see through combat art the struggles and accomplishments of Marines and find pride in the Service's history.

The Marine Corps Combat Art Program remains active today. The National Museum of the Marine Corps runs the program and hosts Marine Corps combat artists.⁵¹ The program's mission remains unchanged from Brigadier General Denig's initial charge: "Keep Americans informed about what 'their Marines' are doing at home and overseas."⁵² The program stays true to the foundation first provided during World War II to capture Marines' realities at war. As the program's website notes, "The collection's strength rests on the authentic and unvarnished focus these works have on the human condition under the most trying circumstances."⁵³ The Marine Corps combat art collection now includes 9,000 works created by 350 artists. Such an extensive collection of fine art is ideal for study by today's Marines.

Recommendations for Using Combat Art

Combat art is applicable for the professional development of all Marines, from the private to the general. How Marines engage with combat art is open to the individual Marine's creativity. However, the Marine Corps must promote the use of combat art. Specifically, this article recommends that the Marine Corps pursue the formal inclusion of combat art in professional military education (PME) and the Commandant's Professional Reading List. It also recommends how the Marine Corps can support informal unit and individual professional development options.

Combat Art in Professional Military Education

The Marine Corps wants Marines who can think critically. One of the objectives of the Marine Corps' PME program is to "develop Marines with the knowledge and critical thinking skills to analyze situations, in an environment of ambiguity and uncertainty."⁵⁴ Further, the Marine Corps emphasizes developing an education curriculum "to facilitate an appropriate mix of instructional techniques and technology that encourages critical thinking, guided and interactive discussions, and complex practical applications."⁵⁵ Incorporating combat art analysis into PME provides a way to develop critical thinking while fostering guided and interactive discussions. From the Lance Corporal Seminar to the Marine Corps War College, PME can use combat art to enhance curricula and develop critical thinking skills.

Combat art can serve a unique role in PME by allowing for the study of the emotional aspects of warfare.⁵⁶ In preparing Marines for future conflict, PME must consider how students are enabled to explore the human dimension of conflict. Combat art is an ideal resource for students to condition their minds for the experiences of war. The level of the program can influence the type of conversations had about combat art. For example, in the Lance Corporal Seminar, it may be useful to discuss the role of core values as interpreted from artwork. At the Command and Staff College, it may be beneficial to discuss how a commander can lead their Marines through the physical or emotional challenges that the artwork conveys. As these examples indicate, combat art offers PME an alternative resource to prepare Marines for the physical and emotional realities of war. In the process, Marines develop the critical thinking skills needed to succeed in an ambiguous environment, which is the objective of PME.

Combat art also serves as a bridge to connect Marine Corps University and PME to the National Museum of the Marine Corps. The expertise of the museum's artists, curators, and educators is essential for developing a curriculum using combat art. Marine Corps University can use the museum's educational resources to incorporate combat art into a school's curriculum. The museum can host site visits for in-residence courses to conduct guided discussions with staff members, such as the artist in residence or curator. Alternatively, the museum could create a virtual seminar as part of a PME program to allow nonresident students a similar experience. In addition to site visits, the museum can work with the university to develop a curriculum for the university to execute. One such method is an elective course mirrored after those used by medical schools. The addition of combat art enriches the educational opportunities for students to explore the physical and emotional realities of war and develop their critical thinking skills.⁵⁷

Combat Art on the Commandant's Professional Reading List

There is often a desire to pair art and literature. Consider that the cover of Victor H. Krulak's book *First to Fight: An Inside View of the U.S. Marine Corps*

uses a work of combat art titled *The Bar Man* by Charles H. Waterhouse, which was drawn from his experiences during the Battle of Iwo Jima in 1945.⁵⁸ This provides an opportunity to pair *The Bar Man* with *First to Fight* on the Commandant's Professional Reading List. While including paintings and sketches on a reading list may seem counterintuitive, combat art is a nonfiction visual guide to a lived experience in war and, as such, can stand alongside the great military nonfiction works currently on the reading list to add intellectual depth and develop a Marine's critical thinking skills.

The most recent revision of the Commandant's Professional Reading List in 2020 expanded the media available for Marines to engage with beyond books.⁵⁹ The reading list now includes recommendations from the Alfred M. Gray Marine Corps Research Center with the Brute Krulak Center for Innovation and Future Warfare for periodicals and podcasts. The reading list should continue to expand to new media by including combat art. The inclusion of combat art, in the form of paintings or sketches, on the reading list would provide Marines with an immediate and widespread opportunity to engage in fine art analysis and develop the critical thinking skills needed to succeed in war.

Combat artworks on the Commandant's Professional Reading List would provide Marines with a different medium to promote intellectual development. The Gray Research Center, Marine Corps History Division, and National Museum of the Marine Corps can curate selected works of art as inclusions to the current categories of the reading list. Alternatively, the reading list could add a category that focuses exclusively on selected combat artworks. One recommendation is to curate artworks that address the features of the nature of war: friction, uncertainty, fluidity, disorder, complexity, the human dimension, violence, and mental forces. When added to the reading list, this "Nature of War" category would examine the physical and emotional aspects of warfare through curated combat artworks. Fundamentally, the addition of a combat art category is the creation of an art exhibit within the reading list.

An alternative approach is to pair combat art with other media that is already on the Commandant's Professional Reading List, such as *The Bar Man* with *First to Fight*.⁶⁰ Combat art provides added context to the accounts in books and offers Marine readers a visual aid to engage with the lessons contained in the text. Engaging with combat art expands the benefits of the reading list beyond the lessons of the texts. There are also standalone books about combat art, such as Chenoweth's *Art of War*, that could be added to the reading list for Marines to explore and use in unit training.

Marines will need an introduction to combat art and art analysis to benefit from such an inclusion on the Commandant's Professional Reading List. The National Museum of the Marine Corps and Marine Corps University should develop a virtual course for delivering the basic information needed to engage fine art. This course should introduce Marines to the Marine Corps Combat Art Program, the role of fine art in developing the critical thinking skills Marines need, and a method of art engagement such as VTS. By engaging with the course, Marines can maximize the use of combat art. The university and museum's websites can host the course or post the course to online video sharing services.

Combat Art in Unit Professional Development Programs

Promoting combat art as a small unit training opportunity offers a great opportunity for the National Museum of the Marine Corps. The first problem to address is how to connect Marines spread throughout the world with combat artworks primarily located at the museum in Northern Virginia. One solution is for the museum to host digital copies of the artworks online for Marines to access. Several options are available for sharing digital copies of artworks, such as the Marine Corps' official website, social media platforms, or through a partner organization. One such partner could be the Brute Krulak Center for Innovation and Future Warfare at Marine Corps University.

Engaging combat art conditions the mind for the creative problemsolving skills needed to drive innovation. The Krulak Center, in partnership with the museum, can use combat art to develop an environment in which Marines can hone their creative problem-solving skills. An interactive online discussion for Marines hosted by museum staff and the Krulak Center could successfully bring combat art to Marines all over the world. In this model, museum staff would offer a selection of combat art as the focus of a discussion and participate with Krulak Center moderators to engage the art with Marines. A unit can request the online discussion as a training opportunity, or the discussion can be a reoccurring event that is open for units to join. Through this partnership, the Marine Corps would have a method of delivering combat art to the Fleet, improving the critical thinking skills of Marines, and fostering an institutional environment of creative problem solving to promote innovative thinking. Marines can also engage combat art as a "hip pocket class" or whitespace training opportunity to increase cohesion within their units and improve communication skills. A small unit leader can select a combat artwork and use the piece to have a guided discussion. Marines can engage artwork hanging in their workspaces or headquarters, access digital copies through the museum, or read a book featuring combat art from a Marine Corps library.⁶¹ Marines do not require any specialized experience to interpret combat art. To facilitate discussion, the unit leader can use VTS to help the Marines to engage the artwork. The Marines can also explore other questions about the art to understand the essence of the artwork that the artist is trying to convey. Through the process, experienced leaders can prepare their Marines for the physical and emotional realities of war while also improving the unit's critical thinking skills.

Conclusion

The Marine Corps has an established fine arts program that is ready for Marines. Research has shown that the study of fine art can improve critical thinking skills and transfer those skills to other disciplines. With the Combat Art Program, the Marine Corps has an immediate way to develop the critical thinking skills that Marines need to succeed in combat.

This article has argued that engaging combat art improves the critical thinking skills and creative problem-solving abilities that Marines need to succeed in future wars while also mentally preparing Marines for the realities of combat. Since the establishment of the Combat Art Program during World War II, the Marine Corps has produced more than 9,000 works of fine art. These works are drawn from the firsthand accounts of Marines in battle and represent a timeless experience for one to study. As fine art, engaging with combat art promotes critical thinking skills that transfer to the skills Marines use every day. As evidenced by successes with incorporating fine art study into a medical school's curriculum, a Marine Corps program using VTS to engage fine art promotes the critical thinking skills demanded in today's Marine. Furthermore, combat art offers a way to get Marines talking about their experiences of being Marines to mentally prepare for combat. By promoting combat art, the Marine Corps develops the critical thinkers needed for future wars.

Future research should investigate the benefits of other art engagement techniques and other art forms to enhance PME. It is beyond the scope of this article to investigate all methods of art interpretation and the impact of those methods on critical thinking (for example, the difference between engaging fine art versus a photograph). One promising area for developing critical thinking skills though the study of fine art is the "artful thinking" framework developed by Project Zero, which medical school curriculums have also used.⁶² This author favored the VTS method for its simplicity of use and ease of understanding. In addition to paintings and sketches, researchers should study other art forms, such as music and poetry, for their potential benefits in developing critical thinking in military professionals.⁶³ Another area beyond the scope of this study is the role of fine art in developing emotional intelligence. Future research could consider how group discussions using VTS affect how an individual understands emotions and if this impacts one's emotional intelligence.

A broader implication of this article's thesis is the role of the humanities in education. Science, technology, engineering, and mathematics

are the in-vogue disciplines in modern education. As a result, the lesstangible effects of the humanities may not receive the deserved attention of educational institutions. However, the heart of the Marine Corps' warfighting doctrine is an understanding of the human element in war. For all the empirical measurements that the sciences can provide, war is, by nature, uncertain. A deeper appreciation for the benefits of an education grounded in the humanities may serve the Marine Corps and the Joint Force well to prepare for the unchanging nature of war.

Since the beginning of the Marine Corps and throughout the history of warfare, humanity has sought ways to express the realities experienced in combat through art. Those lessons can prepare a Marine's mind for future wars to come. All of this must be done to introduce the resources of the combat art program to Marines. The avant-garde use of the arts will produce wide-ranging benefits to prepare Marines for future wars.

¹ H. Avery Chenoweth, *Art of War: Eyewitness U.S. Combat Art from the Revolution through the Twentieth Century* (New York: Friedman/Fairfax, 2002), 22.

² Peter Paret, *Imagined Battles: Reflections of War in European Art* (Chapel Hill: University of North Carolina Press, 1997), 113.

³ Chenoweth, Art of War, 21.

⁴ Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 101.

⁵ *Warfighting*, Marine Corps Doctrinal Publication (MCDP) 1 (Washington, DC: Headquarters Marine Corps, 2018), 7.

⁶ Clausewitz, *On War*, 89.

⁷ Clausewitz, *On War*, 102.

⁸ Warfighting, 9.

⁹ Richard Paul and Linda Elder, *The Miniature Guide to Critical Thinking: Concepts and Tools* (Santa Barbara, CA: Foundation for Critical Thinking, 2009), 4.

¹⁰ Paul and Elder, *The Miniature Guide to Critical Thinking*, 4.

¹¹ Warfighting, 18.

¹² Milan Vego, "On Military Creativity," *Joint Force Quarterly* 70 (2013): 83.

¹³ Phillip Yenowine, "Thoughts on Visual Literacy," in *Handbook of Research on Teaching Literacy through the Communicative and Visual Arts*, ed. James Flood, Shirley Brice Heath, and Diane Lapp (London: Routledge, 2004), 845.

¹⁴ Abigail C. Housen, "Aesthetic Thought, Critical Thinking and Transfer," *Arts and Learning Research Journal* 18, no. 1 (2001/2002): 121.

¹⁵ For more information on visual thinking strategies, visit the VTS website at https://vtshome.org.

¹⁶ Housen, "Aesthetic Thought, Critical Thinking and Transfer," 100.

¹⁷ Housen, "Aesthetic Thought, Critical Thinking and Transfer," 100.

¹⁸ Housen, "Aesthetic Thought, Critical Thinking and Transfer," 101.

¹⁹ Housen, "Aesthetic Thought, Critical Thinking and Transfer," 101.

²⁰ Nancy Lampert, "Critical Thinking Dispositions as an Outcome of Art Education," *Studies in Art Education* 47, no. 3 (2006): 215–28, https://doi.org/10.1080/00393541.2006.11650083.

²¹ Lampert, "Critical Thinking Dispositions as an Outcome of Art Education," 217.

²² Lampert, "Critical Thinking Dispositions as an Outcome of Art Education," 221.

²³ Nancy Lampert, "Enhancing Critical Thinking with Aesthetic, Critical, and Creative Inquiry," *Art Education* 59, no. 5 (September 2006): 47,

https://doi.org/10.1080/00043125.2005.11651611.

²⁴ Lampert, "Critical Thinking Dispositions as an Outcome of Art Education," 224.

²⁵ Lampert, "Critical Thinking Dispositions as an Outcome of Art Education," 224.

²⁶ Yoseph Dalia, Emily C. Milam, and Evan A. Rieder, "Art in Medical Education: A Review," *Journal of Graduate Medical Education* 12, no. 6 (December 2020): 687, https://doi.org/10.4300/JGME-D-20-00093.1.

²⁷ Dalia, Milam, and Reider, "Art in Medical Education," 693.

²⁸ Dalia, Milam, and Reider, "Art in Medical Education," 687.

²⁹ Dalia, Milam, and Reider, "Art in Medical Education," 687.

³⁰ For more information on VTS training programs, visit the VTS website at https://vtshome.org.

³¹ Jo Marie Reilly, Jeffrey Ring, and Linda Duke, "Visual Thinking Strategies: A New Role for Art in Medical Education," *Family Medicine* 37, no. 4 (April 2005): 251.

³² Reilly, Ring, and Duke, "Visual Thinking Strategies," 251.

³³ Reilly, Ring, and Duke, "Visual Thinking Strategies," 251.

³⁴ Reilly, Ring, and Duke, "Visual Thinking Strategies," 252.

³⁵ Reilly, Ring, and Duke, "Visual Thinking Strategies," 252.

³⁶ Shelia Naghshineh et al., "Formal Art Observation Training Improves Medical Students' Visual Diagnostic Skills," *Journal of General Internal Medicine* 23, no. 7 (July 2008): 992, https://doi.org/10.1007/s11606-008-0667-0.

³⁷ Naghshineh et al., "Formal Art Observation Training," 995.

³⁸ Naghshineh et al., "Formal Art Observation Training," 994.

³⁹ Col Raymond Henri, USMC (Ret), "Combat Art since 1775," *Marine Corps Gazette* 58, no. 11 (November 1974): 25.

⁴⁰ Joseph F. Anzenberger, *Combat Art of the Vietnam War* (Jefferson, NC: McFarland, 1986), 7.

⁴¹ Aimée Crane, *Marines at War* (New York: Hyperion Press, 1943), 8.

⁴² Benis M. Frank, *Denig's Demons and How They Grew: The Story of Marine Corps Combat Correspondents, Photographers, and Artists* (Washington, DC: Marine Corps Combat Correspondents and Photographers Association, 1967). There are no page numbers provided in this pamphlet; the quote is in the first paragraph of the "Combat Artists" subsection.

⁴³ Crane, *Marines at War*, 16.

⁴⁶ "Soldier and Civilian Artists Paint the Picture of War in Vietnam."

⁴⁷ Crane, *Marines at War*, 16.

⁴⁸ Clausewitz, *On War*, 122.

⁴⁹ Chenoweth, *Art of War*, 25.

⁵⁰ Carol Kino, "With Sketchpads and Guns, Semper Fi," *New York Times*, 14 July 2010.

⁵¹ For more information on the Marine Corps Combat Art Program, visit the program's website at https://www.usmcmuseum.com/usmccombatartprogram.html.

⁵² "Combat Art Gallery," National Museum of the Marine Corps, accessed 9 January 2022.

⁵³ "Combat Art Gallery."

⁵⁴ Gen James T. Conway, USMC, *Professional Military Education*, Marine Corps Order 1553.4B (Washington, DC: Headquarters Marine Corps, 2008), 2.

⁵⁵ Conway, *Professional Military Education*, 2.

⁵⁶ Within the current PME curriculum at Marine Corps University, combat art would best fit into the leadership and ethics curriculum, such as the Expeditionary Warfare School's Profession of Arms course, the Command and Staff College's Leadership in the Profession of Arms course, and the War College's Leadership and Ethics course. A possible educational objective for a leadership course to achieve with combat art would be to analyze the physical and emotional elements of a situation and evaluate how a leader can respond to a similar situation.

⁵⁷ Specific recommendations for how to measure critical thinking development in Marines by engaging fine art are outside the scope of this paper. Baselining and measuring this growth is a current research focus for the author.

⁵⁸ See Victor H. Krulak, *First to Fight: An Inside View of the U.S. Marine Corps* (Annapolis, MD: Naval Institute Press, 2013). For Waterhouse's *The Bar Man*, see Charles H. Waterhouse, *Marines and Others: The Paintings of Colonel Charles Waterhouse, USMCR Ret.*, 1st ed. (Edison, NJ: Sea Bag Productions, 1994), 183.

⁵⁹ "Revision of the Commandant's Professional Reading Program," All Marine Corps Activities (ALMAR) 023/20, U.S. Marine Corps, 19 October 2020.

⁶⁰ Krulak, *First to Fight*; and Waterhouse, *Marines and Others*, 183.

⁶¹ To view combat art online, visit the Marine Corps Combat Art Program website at https://www.usmcmuseum.com/usmccombatartprogram.html. The National Museum of the Marine Corps also has images available at https://www.requestaprint.net/marines.

⁶² Neha Mukunda et al., "Visual Art Instruction in Medical Education: A Narrative Review," *Medical Education Online* 24, no. 1 (December 2019): 1558657, https://doi.org/10.1080/10872981.2018.1558657. For more information on the artful thinking framework and Project Zero, visit http://pzartfulthinking.org.

⁶³ For more information on poetry and medical school research, see Ronald E. Domen, "The Pathologist as Poet," *Academic Pathology* 3 (2016): 2374289516659078, https://doi.org/10.1177/2374289516659078.

⁴⁴ Henri, "Combat Art since 1775," 39.

⁴⁵ "Soldier and Civilian Artists Paint the Picture of War in Vietnam: Combat Artists Portraying War," *New York Times*, 15 September 1967.