An Applied Report

Educating Marines:
Reorienting Professional Military Education on the Target

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Executive Summary

This applied report is an initial exploration of lessons for the Marine Corps drawn from the literatures of other professional education sectors, such as law, medicine, business, education, and the clergy. It is part of the Professional Military Education in the Professional Educational Landscape Project, an ongoing research effort by the Translational Research Group at the Marine Corps University's Center for Advanced Operational Culture Learning.

The paper examines how professional preparation arrived at the point of needed transformation, the shared problem set, and various courses of action to explore to achieve and sustain that transformation within the Marine Corps, linking the professional education literatures to current challenges in Marine Corps learning organizations, predominantly Marine Corps University.

In July 2018, Commanding General of Training and Education Command called for transformative change in the professional development of Marines. A consistent theme from a cross-section of professional education literatures is this need for radical change. This paper discusses how the professions arrived at this point, what practitioners across the fields are facing in the practice environment, and various paths forward to align professional preparation to this reality.

What became evident is that the deficiencies are clear; however, the solutions stagnate behind existing constructs of "what's right" and "valued" and are constrained by institutional will and ability to change. To achieve and sustain the transformation requires the courage to evolve these value constructs and fundamental beliefs about learning and education as well as the will and ability to adjust organizational structures, policies, programs, and practices to that new vision. This is no small task, as evidenced by the repeated calls for change throughout the professions.

The Marine Corps, due to the uniqueness of the military environment and the size of the Marine Corps, has an opportunity to serve as an exemplar to other professions. By doing so, the Marine Corps can not only add a voice from the profession of arms into the broader community of professions but also position its learning organizations to meet the current and future needs of the Service.

Professional Military Education
in the Professional Education Landscape

Project Overview*

The Professional Military Education in the Professional Education Landscape (PMEPEL) Project is designed to support efforts within professional military education (PME) to learn from other education sectors facing similar challenges.

PME shares a great deal with other sectors of professional education, such as law, medicine, nursing, clergy, public administration, and engineering. Like other professional education institutions, PME institutions:

- must produce graduates who are technically proficient in their field and also educated broadly enough to be able to solve novel problems in unanticipated contexts.
- have hybrid faculties composed of both scholars and practitioners.
- are subject to external influences in terms of regulations, policies, and curricular requirements.
- have a connection to, but not always control of, ongoing professional training requirements that continue throughout the careers of professionals.
- must assess the effectiveness of their curricula not only in terms of student satisfaction and learning, but also in terms of the performance of graduates and the satisfaction of the profession as a whole.
- need to balance educational responsibilities with the role of faculty and researchers in building and publishing new knowledge for the profession.
- have functions and responsibilities that extend beyond classroom education of professionals across the spectrum of creating, curating, and communicating knowledge.

Each individual field, including PME, has a literature through which it challenges itself and documents efforts to improve. However, there is relatively little available that compares these literatures and none that includes PME in the discussion. Likewise, there is nothing available that draws themes or lessons from these literatures in specific application to PME and other military learning endeavors.

In July 2018, CAOCL's Translational Research Group (TRG) began the PMEPEL Project to help to bridge this gap through reviewing professional education literatures. Outcomes of the project will include applied reports, an annotated bibliography, and other products as time and resources allow.

* The project overview was written by Dr. Kerry Fosher, Director of Research, CAOCL.

Educating Marines:
Reorienting Professional Military Education on the Target[1]

I have noticed over the past several years that there is an increasing dissonance between what we are doing with regard to training and education, and what we need to be doing based on the evolving operating environment.

- From *TECOM Commander's Guidance*, 2018

In his 2018 guidance document, Commanding General, Training and Education Command (TECOM), lays out a task list to transform the preparation of Marines. He tasked all components throughout the training and education continuum to examine existing practices, structures, programs, and content with a mind to change. His call for transformative change in how the profession is preparing its practitioners echoes calls throughout the range of professional fields, such as law, medicine, nursing, engineering, clergy, and education. Many, if not all, of these professions are grappling with misaligned institutional and faculty structures, practices, and norms and curricular content and delivery. In its Professional Military Education in the Professional Educational Landscape (PMEPEL) Project, the Translational Research Group (TRG) at the Marine Corps University's Center for Advanced Operational Culture Learning is examining the literatures of professional preparation across professional fields. The intent of the project is to gain insights and draw lessons from the other forms of professional preparation to inform institutional decision-making and direction. Through a cross-sectional examination of literatures of different professional education sectors, TRG has identified some key themes that may be useful for TECOM to consider as it discerns future direction in the training and education of Marines.

This paper is exploratory. It examines how professional preparation arrived at the point of needed transformation, the shared problem set, and various courses of action to explore to achieve and sustain that transformation within the Marine Corps, linking the professional education literatures to current challenges in Marine Corps learning organizations, predominantly Marine Corps University.

Transformation not reformation

The issue is not so much reforming engineering education within old paradigms but instead transforming it into new paradigms necessary to meet the new challenges such as globalization, demographic change, and disruptive new technologies.[2]

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[1] The title takes the form of the titles coming out of the Carnegie Foundation for the Advancement of Teaching's Preparation for the Professions series, which examined over a ten year span the professional fields of engineering, law, medicine, nursing, and clergy. This is not to suggest that this work reflects the same studied analysis by learned professionals from within the field, as it does not in any way, but rather to initiate inclusion of the profession of arms into the conceptualization of legitimate fields of professional education. The absence of professional military education (PME) in the professional education literature is noteworthy. There is much for the professional education community to learn from PME and vice versa. The discussion in this report includes insights from the Carnegie effort as well as other professional education literatures.

[2] James A. Duderstadt, *Engineering for a Changing World: A Roadmap to the Future of Engineering Practice, Research, and*

Like the Commanding General of TECOM, professional educators and leaders across professions have called for a transformation of professional preparation to ensure alignment between professional training and education and the needs of the society they serve. The challenges facing the professions are far ranging, including curricula, institutional structures and processes, technology, and a host of other issues. One author wrote of the field of engineering, "In view of these changes occurring in engineering practice and research, it is easy to understand why some raise concerns that we are attempting to educate 21st-century engineers with a 20th-century curriculum taught in 19th-century institutions."[3] A transformation, not reformation, is needed.

Professional schools have been reforming within existing models for decades, often through the additive method of curriculum development. As the Commanding General of TECOM noted, "Over time, many things have been added to the various school curriculums."[4] This was experienced in clergy preparation as well. "Although seminary training now includes field education, contextual components of learning, spiritual formation for ministry, and continuing education for pastors beyond seminary, the basic approach is not so much integrative as change by addition."[5] Additionally, this was discussed in 1945 in the legal profession.

> We have now for decades been adding topics to the earlier case-books faster than we have been dropping topics out. … The modern complexity of material is accompanied also by an increase in the range and type of problem canvassed in our classes: dabs of legal history, of jurisprudence, large chunks of the problems of judicial policy, problems of counselling suggested by the instructor's experience or the annotations of the case-book materials of economic or social or political background—all these come in, but they come in helter-skelter: "The place for that is not a separate course; it ought to be part of every course!" So we say, and so we keep adding.[6]

These very words have been heard in the halls of Marine Corps University. This method is not just employed to address the very real impacts of the explosion of information and technological changes currently occurring. This is a constant battle, as the quotation from 1945 reveals, and before that as noted in the discussion of 1870s legal curricular reform[7]. Curriculum as well as instructional methods are set to address a particular need in a particular time and need to evolve as the society and profession to which they are aligned evolve. The additive method of curriculum development overburdens faculty and students alike, places primacy on knowledge transfer, and fails to take advantage of integrated learning opportunities. With the rapidity of information change, as Peter Densen notes, "Clearly, simply adding more material and or time to the curriculum will not be an effective coping strategy."[8]

As the Commanding General of TECOM has called for overhaul, so have others. However, just

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Education (Ann Arbor, MI: The Millennium Project, University of Michigan, 2008), 4.

[3] Duderstadt, 4.

[4] William F. Mullen, III, *TECOM's Commander's Guidance,* TECOM memorandum (July 18, 2018), 4.

[5] Christian A. B. Scharen and Eileen R. Campbell-Reed, "Learning Pastoral Imagination: A Five-Year Report On How New Ministers Learn in Practice," *Auburn Studies* (2016), 21.

[6] Charles Bunn, David F. Cavers, et al., "The Place of Skills in Legal Education," *Columbia Law Review* 45, no. 3 (1945), 354-356.

[7] Derek Bok, *Higher Education in America* (Princeton, NY: Princeton University Press, 2013), 310.

[8] Peter Densen, "Challenges and Opportunities Facing Medical Education," *Transactions of the American Clinical and Climatological Association* 122 (2011), 48-58.

stripping away adhered layers of patchworked classes to revert to a "main thing" may not be enough to prepare professionals for the future, as that "main thing" was defined during a different era and its associated curriculum and instructional methods are those being called into question as insufficient. That is reformative. What is needed is transformative, as noted in the Duderstadt quotation about engineering above and in the following coming from the medical field, "Fundamental change in medical education will require new curricula, new pedagogies, and new forms of assessment."[9] Densen adds, "fundamental change has become an imperative."[10] Julio Frenk et al. describe their concept of transformational instructional reform,

> As a valued outcome, transformative learning involves three fundamental shifts: from fact memorisation to searching, analysis, and synthesis of information for decision making; from seeking professional credentials to achieving core competencies for effective teamwork in health systems; and from non-critical adoption of educational models to creative adaptation of global resources to address local priorities.[11]

Change is difficult. In engineering, "Appearance every decade of a definitive report on the future of engineering education is as predictable as a sighting of the first crocuses in spring."[12] It is easy to point out the problems. Enacting change is hard because the change needed is not just structural and curricular within the schools but includes a cultural shift in societal and professional norms and values. And, of course, this is where it gets tricky.

How did we get where we are today? Existing professional school structures, faculty constructs, and curricula are products of the Flexnerian revolution that began in 1910. Addressing the failings of medical schools at the turn of the century, Flexner's report ushered in a sea change in medical professional preparation that reverberated throughout the professions. Professional schools were integrated into research universities and the scientific pursuits became the pinnacle of professionalism. The privileging of scientific knowledge and basic science formed societal and professional understanding of expertise, shaped categories of learning, teaching methodologies, and curricular content, and devalued other forms of knowing and professional responsibility to the social contract. Professionals were those in "possession and control of a highly specialized form of knowledge."[13]

Societal valuation of this scientific knowledge followed in research funding streams, faculty reward structures, barriers to entry to esteemed programs, and university rankings, for example. Faculty research brought prestige, which universities rewarded with tenure practices to protect the unfettered advancement of scientific knowledge and society at large awarded with rankings. Only those mastering a certain level of competency in specialized knowledge areas got in through the use of standardized tests. Even the reliance on time in seats – to receive the required knowledge transfer – revealed the bias for scientific knowledge. Consider the amount of structural, programmatic, and cultural change needed to envision a new path, and that new path

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[9] Molly Cooke, David M. Irby, et al., *Educating Physicians: A Call for Reform of Medical School and Residency* (San Francisco, CA: Jossey-Bass, 2010), 3.

[10] Densen.

[11] Julio Frenk, Lincoln Chen, et al., "Health professionals for a new century: transforming education to strengthen health systems in an interdependent world," *The Lancet* 376 (2010), 1924.

[12] William Schowalter quoted in Duderstadt, 6.

[13] William Sullivan in Patricia Benner and William Sullivan, "Current Controversies in Clinical Care: Challenges to Professionalism-Work Integrity and the Call to Renew the Social Contract of the Professions," *American Journal of Critical Care* 14, no. 1 (2005), 80.

is needed. As an example, the value society places on rankings and existing measures of success are outdated.

> Shaped by magazine lists, friends' and strangers' confirmations and professional hearsay, the notion that a medical school's quality can be ranked and then passed on directly to their graduates has become an integral part of American culture. But most of these popular rankings reflect a school's highly specialized research funding and capabilities, not the general quality of its medical school graduates. … Despite the changes in patient needs, many patients, and their doctors, continue to fall back on old rankings, assuming that institutions that succeeded in addressing the needs of the 20th century can still do so in the 21st.[14]

Similarly, there are law firms that claim graduates are unprepared for the work but still seek graduates from the same schools because they are the "best" schools, or at least were under the 20th century construct. And in engineering, recruiters "tend to stress narrow technical skills and achievement … despite the claim by their executive leadership that what they really value are broader abilities such as communication skills, a commitment to lifelong learning, an appreciation for cultural diversity, and the ability to drive change."[15] And despite recognizing the need for diversified capabilities and skillsets in entering students, programs still rely on standardized tests and measures of success that privilege certain individuals and knowledge areas. Richard K. Miller, president of Olin College, an innovative engineering school, notes "It takes more than SAT tests and mathematics and physics in order to be successful. … We just tend to ignore them in traditional schools."[16] Dr. Fitzhugh Mullan agrees, "Doctors who have done very well on everything from kindergarten to residency training in terms of getting into prestige places are assumed to have sharp intellects, but none of that correlates in any scientific way with their performance as physicians."[17] Recognizing how these values were formed and how they display is helpful when considering how to move forward.

As the 21st century approached, professional development and the professions were at a crossroads. The *Flexner Report* had "created important solutions to major problems at the time. But what is also clear is that the very act of resolving one era's problems often contributed to the dilemmas of the next generation."[18] The professions were experiencing ethical breakdowns and the rupturing of their contracts with society, and the public was losing trust in them.[19] Like other professions, the U.S. armed services experienced a series of ethical lapses that, for example, led to the Marine Corps holding an Ethics Stand Down in 2012. Schools were finding the curricular and faculty structures were designed around an expiring problem set and their graduates were unprepared to fulfill their obligation to society.

> In the throes of external attack and internal self-doubt, the university-based schools of the professions [were] becoming increasingly aware of troubles in certain foundational assumptions on which they [had] traditionally depended for their credibility and legitimacy. They [assumed] that academic research yields useful professional knowledge and that the professional knowledge taught in the schools [prepared] students for the

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[14] Pauline Chen, "Rethinking the Way We Rank Medical Schools," *New York Times* (New York, NY), June 17, 2010, accessed June 20, 2018, https://www.nytimes.com/2010/06/17/health/17chen.html.

[15] Duderstadt, 31.

[16] Richard K. Miller as quoted in National Academy of Engineering, *Educating Engineers: Preparing 21st Century Leaders in the Context of New Modes of Learning: Summary of a Forum* (Washington, DC: National Academies Press, 2013), 4.

[17] Chen, P.

[18] Cooke (2010), vi.

[19] Bok, 313.

demands of real-world practice. Both assumptions [were] coming increasingly into question.[20]

Like in TECOM, leaders across professions entered a period of discernment to examine the status of the schools and professional structures, policies, and practices and set a course for change.

The Problem Set

In law practice, it is the norm rather than the exception for lawyers to encounter situations where it is not clear what outcomes would best serve clients' interests and where lawyers must weigh multiple and complex options to find the most appropriate means for achieving any outcome.[21]

Like Marines, professionals from across the different fields have to act in diverse environments where there is no clearly defined path and where "real lives are involved and real consequences are at stake"[22] and uphold their commitment to the profession and society. "As we have come to see with increasing clarity over the last twenty or so years, the problems of real-world practice do not present themselves to practitioners as well-formed structures. Indeed, they tend not to present themselves as problems at all but as messy, indeterminate situations."[23] Donald Schon describes three types of indeterminacy – uncertainty, uniqueness, and value conflict[24] – that face practitioners for which the current education models do not prepare them. Add to these the rate of knowledge expansion, technological advances, and the globalization and diversification of the local sphere. Just to give a sobering example from the medical field on information growth, "It is estimated that the doubling time of medical knowledge in 1950 was 50 years; in 1980, 7 years; and in 2010, 3.5 years. In 2020 it is projected to be 0.2 years—just 73 days."[25] These internal and external pressures are challenging professional practice and need to inform how professions approach professional preparation.

With the issuance of his 2018 TECOM guidance, the Commanding General joins other professional leaders calling for transformation in the structures, programs, and policies shaping the preparation of professionals. His calls echo the sentiments found across the professions to teach students "how to think, decide and act. … and enable them to think critically, recognize when change is needed and inculcate a bias for action without waiting to be told what to do."[26] Education professor Gary Fenstermacher, who was part of the Carnegie study, recognized the need to go beyond the "what" of learning late in his career, and it transformed how he approached his students.

> When understanding is the terminus of one's teaching, theoretical reasoning may be sufficient to achieve that end. A knowledge of and appreciation for "how the facts stand" may be both a noble aspiration for the teacher and a worthwhile achievement for the

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[20] Donald A. Schon, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions* (San Francisco, CA: Jossey-Bass, 1987), 9.
[21] Roy Stuckey and Others, *Best Practices for Legal Education: A Vision and a Road Map* (Clinical Legal Education Association, 2007), 50.
[22] Scharen, 15.
[23] Schon, 4.
[24] Schon, 6.
[25] Densen.
[26] Mullen (2018), 1.

> learner. These are the ends I aspired to "pre-Carnegie." What I failed to see then was that knowing how the facts stand does not ensure that one can figure out what to do. That is, proficiency in practical reasoning does not, mysteriously but ineluctably, follow from the development of theoretical reasoning. Like theoretical reasoning, practical reasoning must be cultivated.[27]

And knowing how the facts stand and how to do something does not mean one should act and, if so, how. Like in engineering, knowing how to build a bridge does not help you figure out what type of bridge to build or if one should be built at all. "They face a complex and ill-defined mélange of topographical, financial, economic, environmental, and political factors"[28] for which their technical knowledge and skills are not sufficient. That requires broader knowledge sets, different thinking skills, then the ability to translate that thinking into action, and a strong normative orientation to guide that action.

The Aristotelian observation "that a practice such as being a statesman is different from what can be accomplished solely by rules and procedures"[29] underscores the call to rebalance professional preparation to prepare the "whole" professional, not just one component of what it means to be a professional. According to Benner, Sutphen, et al.,

> A practice requires knowledge, skill, and character. A practice focuses on situated and relational knowledge--or knowledge gained from the context of the situation and interactions with the individuals present--and interpreting underdetermined and fluid situations that change over time and defy standardized rules and procedures.[30]

In the Preparation for the Professions Program, the professions' leaders and educators agreed with this "triad" of knowledge, skill, and character noted above needed for professional formation, referring to its component parts as the cognitive, practical, and normative apprenticeships.[31] They noted that the current model "tilts the balance toward the cognitive."[32] All the professions looked at in PMEPEL discussed how success in 21st professions requires this rebalancing and more, given the globalized world, technological advances, and the rate of knowledge creation and expiration.

Courses of Action

Normative Response

The relationship between the professions and the general society is inherently ethical at its core.[33]

Ethical formation and action figure prominently in the discussion of how to transform

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[27] Gary D. Fenstermacher, foreword to William M. Sullivan and Matthew S. Rosin, *A New Agenda for Higher Education: Shaping a life of the Mind for Practice* (San Francisco, CA: Jossey-Bass, 2008), x.

[28] Schon, 4.

[29] Patricia Benner, Molly Sutphen, et al., *Educating Nurses: A Call for Radical Transformation* (San Francisco, CA: Jossey-Bass, 2010), 205.

[30] Benner, Sutphen, et al., 205-206.

[31] Colby and Sullivan, 409.

[32] Charles R. Foster, Lisa E. Dahill, et al., *Educating Clergy: Teaching Practices and Pastoral Imagination* (San Francisco, CA: Jossey-Bass, 2005), 5.

[33] Anne Colby and William Sullivan, "Formation of Professionalism and Purpose: Perspectives from the Preparation for the Professions Program," *University of St. Thomas Law Journal* 8, no. 2 (2008), 405.

professional preparation. "What the public seeks from professional schools is an education that develops the students' strength of character to *act* according to enlightened principles amid all the pressures and temptations of the real world."[34] Because of the primacy of objective scientific knowledge and technical rationality discussed above, the normative aspect of professional preparation[35] has been minimalized or sidelined. "In fact, in almost every field of professional education, teaching for professional purpose and commitment, moral integrity, and ethical conduct is subordinate to teaching for professional knowledge and skill."[36] This did not translate well into the work environment. "Whatever the merits of 'value-free knowledge,' they do not transfer well to the idea of 'value-free' professionals."[37] In their look at engineering, Shepherd, Macatangay, et al. found that "We did hear some faculty and students talk about societal and ethical implications of engineering design work, expressing it as 'Once you mess with the world, you are responsible for the mess you've made.'"[38] However, ethical comportment as a professional responsibility did not make it into the majority of design course outcomes.

One profession – the clergy – stood out as maintaining emphasis on the normative apprentice. In clergy preparation, the inclusion of humanities in professional preparation has helped the profession in developing the "whole" practitioner.

> This use of the classic techniques of the humanities to bring normative knowledge to bear on practice situations gives professional education of the clergy its distinctive pedagogical ethos. At the center of this pedagogy is the idea of formation: the recognition that teaching and learning are about much more than transferring facts or even cognitive tools. Learning in the formative sense is a process by which the student becomes a certain kind of thinking, feeling, and acting being.[39]

Others have also called to reintegrate liberal or humanities education into professional development and for the creation of kind of "renaissance"[40] professionals. Concepts like practical reason and practical judgment emerge in the discussion of needed capabilities for practitioners. "Practical reason, once central to the educational tradition that stemmed from the rhetorical and humanistic studies of the European Renaissance, has all been eclipsed by a focus on utility, on the one side, and on abstract, analytical reasoning, on the other."[41] In nursing, medicine, law, and engineering, for example, the need for broader thinking skills to understand the globalized, ever-changing context of their work environment appears.

> Perhaps what is most missing in the current engineering education curriculum, crammed as it is increasingly with demanding technical material, is the opportunity for a truly liberal education, designed to enable young students to develop the deeper intellectual skills necessary to adapt to a world characterized by continual change.[42]

Prior to the Flexnerian revolution, education in America "was thought of as shaping the self,

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[34] Bok, 315.

[35] The initial focus of PMEPEL is on professions other than the profession of arms to bring diversified voice and experience to the Marine Corps deliberations. The intent is to broaden the aperture to include professional military education literature. At the time of this writing, this stage has not begun.

[36] Colby and Sullivan, 406.

[37] William M. Sullivan, Anne Colby, et al., *Educating Lawyers: Preparation for the Profession of Law* (San Francisco, CA: Jossey-Bass, 2007), 7.

[38] Sheri D. Sheppard, Kelly Macatangay, et al., *Educating Engineers: Designing for the Future of the Field* (San Francisco, CA: Jossey-Bass, 2008), 106.

[39] Foster, Dahill, et al., 10.

[40] Duderstadt, 56.

[41] Sullivan and Rosin, xvi.

[42] Duderstadt, 56.

especially civic, cultural, and (often) religious habits of mind and character suitable for a life of leadership in society."[43] And the need for those habits of mind – thinking like a professional that then leads to becoming that professional – crop up across the professions.[44] "Relating critical knowledge and thinking to engagement and responsibility requires a different set of practices. These are rooted in the traditional humanities, which called faculty and students alike to articulate explicitly the meanings and values that ought to guide human living."[45] The professions have sought to rebalance the curricular emphasis through updated core standards and competencies to reintegrate cultural, interpersonal, ethical, and management competencies into professional standards. This would ensure explicit attention on and a position of prominence for these aspects of professional practice, oftentimes relegated into implicit curricula where there is hopeful transfer or to second class citizenship in curricular priorities.

Sidelining ethics in professional development has not been an issue for the profession of arms, and the Marine Corps is no exception. The topic of ethics appears throughout the training and education continuum and is reinforced throughout Marines' careers. The core values of honor, courage, and commitment permeate Marine Corps guidance and practice. With regard to professional development, while there is emphasis in value description on "professionalism and mastery of the art of war,"[46] the Marine Corps may benefit from considering how other professions are conceptualizing ethics' link to education and professional development. This may help integrate different components of the normative apprentice into value framing and inform how the Marine Corps approaches the transformative change called for by CG TECOM.

As an example, the Marine Corps may benefit from seeing how lifelong learning is conceptualized and enacted in the other professions. Lifelong learning as a critical component of ethical comportment figures prominently in the professional education discourse. "Codes of ethics in virtually every field include the development and maintenance of expertise as an ethical commitment of professionals."[47] In his guidance memorandum, the Commanding General of TECOM stresses the need for action on self-study and links it to professionalism.

> Self-study is the most important aspect of any PME system. … Our Marines have to understand that continuous learning is an absolute expectation of the profession of arms. The price of a lack of competence in our profession is filling body bags until we figure it out - this is unacceptable and in other professions is considered gross malpractice.[48]

Self-study, lifelong learning, continuing education, on-going professional development, continual self-improvement – it goes under many different names and displays nuanced differences across professional fields. Whatever the label, professions expect their members to engage in the act of continually deepening and honing professional competencies throughout their professional careers. "All professionals should be lifelong learners."[49] It is a critical ethical component of professional identity.

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[43] Sullivan and Rosin, 22.
[44] For example, see Chapter 3: "Bridges to Practice: From 'Thinking Like a Lawyer' to 'Lawyering'" in Sullivan, Colby, et al., 87-125; Duderstadt, 52.
[45] Sullivan and Rosin, xxii.
[46] Human Resources and Organizational Management, Headquarters Marine Corps, "What are the Marine Corps Values?" accessed on November 28, 2018, https://www.hqmc.marines.mil/hrom/New-Employees/About-the-Marine-Corps/Values/.
[47] Colby and Sullivan, 411.
[48] Mullen (2018), 4-5.
[49] Stuckey et al., 48.

The declarative statements and standards from the professions are just part of the action required from the profession to ensure a normative environment that results in enactment of this behavior throughout the span of a career by newly emerging practitioners. The demand to participate in "continued advancement of knowledge,"[50] skills, and habits of mind needs to be integrated throughout the professions' programs, policies, and practices and especially needs to emanate from the leadership. It is important to note that for some within other professions, lifelong learning is not conceived exclusively as knowledge acquisition, such as the list of reading materials or courses to take laid out in General Mullen's 2012 article[51] that is referenced in his guidance memorandum[52]. This proscribed understanding is culturally ingrained. As Guy Claxton notes, "At root, then, Westerners find it easier to think of learning in terms of the solution to a problem, or the retention of some material."[53] Rather there are those that have an expanded notion of it as a process of continual improvement through experience, reflection, peer interaction, and yes, continued study. Broadening the ethical construct to include lifelong learning as a process, not a product, and linking that firmly to Marine identity could shift how Marines perceive its place in and enact it throughout their careers. This difference in problem framing is important to consider when discussing institutional and pedagogical responses in the ensuing section, as how one sees the problem is how one approaches solutions.

Enactment of this ethical construct, however, would require a shift in Marine Corps valuation of education. Reorienting how the institution and members of the institution conceive of education and learning is a critical cultural shift that needs to happen to ensure Marines embody this value orientation and professional expectation. Many of the tasks within the Commanding General of TECOM's guidance memorandum point to norming efforts that could encourage the value of learning and education in individual Marines. However, they are framed in language emphasizing compliance and assured understanding (a legalistic framing) rather than normative shifts that would foster the development of intrinsic motivation within practitioners to change value constructs.

Such a change can happen through enacting the policies, processes, and practices framed in normative language and symbols.

> Symbols are often used as a way to express and reaffirm the fundamental belief systems that a society holds. ... Like words, they can be used in social settings to define the shared interpretation of 'what's really going on here,' to direct each actor's behavior, and to express the dominance relationships that exist between the various individuals who are interacting.[54]

The use of white coats in medicine emerged after the *Flexner Report* to visually link physicians with scientific knowledge, to reorient the public's conception of medical practice away from quackery towards the primacy of the laboratory and its specialized knowledge and to help transition care from home to hospital. "Towards the end of this radical transformation of the profession of medicine, physicians became stereotyped as scientists wearing white coats."[55] The

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[50] Colby and Sullivan, 412.

[51] William F. Mullen, III, "PME Continuum: Ensuring that continuing officer education goes beyond the published guidance," *Marine Corps Gazette* 96, no. 6 (June 2012), 47-50.

[52] Mullen (2018), 4.

[53] Guy Claxton, *Wise Up: The Challenge of Lifelong Learning* (New York, NY: Bloomsbury, 1999), 23.

[54] Dan W. Blumhagen, "The Doctor's White Coat: The Image of the Physician in Modern America," *Annals of Internal Medicine* 91 (1979), 111.

[55] Blumhagen, 112.

symbol worked to reorient society's perception of the physician from quack to scientist. In the engineering profession, there are calls from within to change the profession's story to shape societal valuation of the profession and attract more future engineers,[56] shifting it from problem solving to a continuum of problem definition and solutions.[57]

Like engineering, the profession of arms may need to consider constructing or reorienting symbols and rituals and expanding the imagery and language used to convey what it means to be a Marine or military professional to evolve internal and external conceptions of a professional of arms and the role of learning in the profession. In its project exploring Marine Corps organizational culture, TRG found that some Marines' perceptions of a Marine's worth are wrapped in the language of physical standards.[58] This perception tilts Marine valuation toward the training programs that support physicality. Part of the normative rebalancing needed in the Marine Corps is broadening the construct of professional identity to embrace other needed attributes that form part of the Marine professional identity.

In another example, many of the thinking processes and knowledge areas typically aligned with the category of "soft" skills fall within the normative apprenticeship; however, in a military culture, "soft" skills may fall outside positive norms. There may be a need to reorient the value construct surrounding "hard" and "soft" skills in the minds of practitioners and the organization alike. Like most other professions, the veterinary profession has recognized the need for classically categorized soft skills for the success of its practitioners. "The soft skills have been recognized as increasingly important to the success of veterinary professionals in virtually every report on the present state and future of the profession during the last 20 years."[59] In the Marine Corps conceptions of weakness and masculinity inform value assignation to knowledge areas and skills that typically fall under the asterisked or quotation-marked *soft* title. Such value constructs complicate the transferability of such learning into action and challenge the learning institutions' ability to achieve the student learning outcomes established by the profession.

For more concrete ideas, consider the following two examples. The words surrounding the call for an entrance exam to PME institutions in the TECOM memorandum form an image in the mind of the reader and exam taker. Currently, it is framed as a compliance and equalizing tool instead of as a tool that selects only the best for coveted resident PME seats. "The emphasis will be on what the Marine should know upon arrival at ILS or TLS[60] and will help to reinforce the self-study portion of PME as well as ensuring that Marines arriving at school are better prepared to participate in each program."[61] How an organization talks about, positions, and displays ideas informs organizational and external conceptions of value placed on those ideas. Wrapping the purpose of the exam in normative language to inform valuation is a simple first step. Also,

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[56] Susan Dumond and Roma Agrawal, "Skills 2030: Securing the Talent to Build our Future Infrastructure," AECOM, 2018, and accessed on November 28, 2018, https://infrastructure.aecom.com/infrastructure-skills?_ga=2.231929567.1511206231.1529424128-1791412044.1529424128; National Academy of Engineering, *Educating Engineers*, 27.

[57] Colby and Sullivan, 417-418.

[58] Research project: *Perceptions and Experiences of Organizational Culture in the Marine Corps- Exploratory Research*, conducted under Human Subjects Protection Protocol USMC.2017.0005.

[59] Susan D. Dawson, "Mapping Delivery of the Nontechnical Professional Competencies in the Veterinary Curriculum" (master's thesis, University of Prince Edward Island, 2009), 18.

[60] Intermediate Level and Top Level Schools.

[61] Mullen (2018), 5.

currently, Marines' visual resumes on their uniforms in the form of medals or ribbons do not include reference to education. Drawing from our foreign military partners, including a medal for PME – one given to high performers not for completion – could also help in value construction. These are but a few ideas.

Institutional Response

How does a professional school prepare its students both for the specific skills needed to perform the functions they must enact, while also preparing them to become the kinds of human beings-morally, experientially, and intellectually-to whom others are ready to entrust the performance of those functions?[62]

Given the overabundance of potential and existing curricular content, the continual appearance of the good idea fairy, the ever-growing lists of standards and competencies, and the technological advances shaping lived experience coupled with the need for renaissance-type practitioners committed to upholding the social contract, the professional schools recognize the challenge before them, as discussed at length above, and have explored curricular and pedagogical changes to elevate their student learning and understanding of their professional responsibility.

Lifelong learning

Our educational perspective must broaden from educating the young to preparing our students for a lifetime of education.[63]

The above quotation from the engineering profession brings the discussion back to the topic of lifelong learning, now from the professional school perspective. The professions agree that one of the purposes of professional schools is to teach students to be lifelong learners, to help instill this normative orientation in young practitioners. Colby and Sullivan state, "It is a commonplace, even something of a shibboleth, that the culminating goal of professional education must be the preparation of 'life-long learners.'"[64] Cooke, Irby, et al. note that Flexner too understood the criticality of lifelong learning. "Flexner recognized the need to … train students for problem solving, critical thinking, and self-education rather than for mastery of facts that would quickly become outdated or irrelevant"[65] as well as teaching them biomedical science, interesting though the former was not pursued as rigorously as the latter. However, Colby and Sullivan, right after stating it is a shibboleth, note it is not happening. They point out that "[i]n our study of curriculum, pedagogy, and assessment in five professions, however, we have not seen many educational practices that address this goal in a serious way."[66] And the professions are finding many of their practitioners are not doing the necessary self-study[67] and remain what Carl Bereiter and Marlene Scardamalia refer to as "experienced nonexperts" instead of transforming

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[62] Foster, Dahill, et al., x.
[63] Duderstadt, 55.
[64] Colby and Sullivan, 412.
[65] Cooke, Irby, et al., 76.
[66] Colby and Sullivan, 412.
[67] For example, see Mullen (2018), 4.

into experts in their fields.[68] Why that may be might have to do with the difficulty in addressing this learning area in the 20th century constructed curricula emphasizing knowledge transfer. Curricula are not designed to teach the thinking processes and skills that enable students to become lifelong learners.

What are the characteristics of lifelong learners? According to Guy Claxton, lifelong learners have to have

> the ability to think strategically about [their] own learning path [and] … the self-awareness to know one's own goals, the resources that are needed to pursue them, and [their] current strengths and weaknesses in that regard. [They have] to assume responsibility for [their] own learning path. … [They] have to able to *monitor* [their] progress; if necessary even to *measure* it; to *mull* over different options and courses of development; to be *mindful* of [their] own assumptions and habits, and able to stand back from them and appraise them when learning gets stuck; and in general to manage [oneself] as a learner – prioritising, planning, reviewing progress, revising strategy and if necessary changing tack.[69] (emphasis in the original)

Colby and Sullivan note two conditions that are consistent with those professionals who are committed to continual improvement through lifelong, self-led learning, which are "curiosity and deep commitment to the profession's aims and methods."[70] Claxton continues that learners need to be resilient, resourceful, and reflective to be able to navigate the complexities of life, noting,

> Certainly learning power needs a foundation of emotional tolerance for the vicissitudes of learning. And certainly, on that foundation has to be built a broad and flexible repertoire of learning skills and strategies - the knowing what to do when you don't know what to do. But good learners also need to be strategic. They need to know their own minds; to be aware of their strengths and weaknesses; to be able to take stock of their own learning and to plan and manage it effectively. They need to be open-minded, willing and able to see through the appearances of familiarity to the learning opportunities hidden behind them. They need, in a word, to be reflective.[71]

Cultivating those characteristics takes more than content updates, as the pedagogical response to such outcomes as creativity, curiosity, resilience, and values looks mighty different to those designed for content transfer. Duderstadt suggests,

> Such a paradigm shift would require that the university organize itself quite differently, stressing forms of pedagogy and extracurricular experiences to nurture and teach the art and skill of creation. This would probably imply a shift away from highly specialized disciplines and degree programs to programs placing more emphasis on synthesizing and

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[68] Carl Bereiter and Marlene Scardamalia, *Surpassing Ourselves: An Inquiry into the Nature and Implications of Expertise* (La Salle, IL: Open Court Publishing Company, 1993). See page 11 of their work: "The difference between experts and experienced nonexperts is not that one does things well and the other does things badly. Rather, the expert addresses the problems whereas the experienced nonexpert carries out practiced routines. Often these routines are carried out very well and are effective in a majority of cases. It is only when the routines fail ... that the difference between experts and nonexperts becomes manifest. … We want to say that experts and experienced nonexperts, even when they are nominally practicing the same profession, are actually pursuing different careers. *The career of the expert is one of progressively advancing on the problems constituting a field of work, whereas the career of the nonexpert is one of gradually constricting the field of work so that it more closely conforms to the routines the nonexpert is prepared to execute.*" Italics in the original.

[69] Claxton, 14.

[70] Colby and Sullivan, 412.

[71] Claxton, 180.

integrating knowledge to enable creativity and innovation.[72]
The emphasis here is more on developing the metacognitive skills, making a learner's learning process more transparent and thus knowable to them and instilling in them the ability to self-reflect and the humility to accept and transform feedback into action, and the motivation to continually deepen their knowledge based on their own judged needs.

Note the inclusion of "self-led" in this description. As part of ethical comportment and professional responsibility, participating in continual improvement needs to come from within the individual. As Scales et al. note, professionals "are best placed to make decisions regarding their own continuing professional development"[73] when equipped with the normative framing of their work and the skills to be able to identify their needs. Therefore, it is incumbent upon the educational and overarching professional institutions to create the normative environment and adopt pedagogical practices that instill in learners this ethical framework. A global or pervasive failing at the individual level is more indicative of a normative failure in the profession and/or a pedagogical failure in the professional schools than a professional failure in the individuals. General Mullen notes that "not all Marines are doing enough of [self-study]." However, constructing extrinsic programs of defined learning areas – or employing the "sheep-dip"[74] method of uniform, standardized requirements – does not solve the problem of individual improvement. It only serves to make the institutions feel like they are being proactive, and it can hamper the development of intrinsic motivation to self-betterment, professional responsibility, and personal growth and result in a "check in the box" approach to requirement fulfillment. According to educator Robert Rinehart, "intrinsic motivation, in athletes, students, and teachers alike, is likely the most important factor that will keep an individual engaged and involved."[75] The Marine Corps may want to reconsider the approach for the proposed self-study solution in the Commanding General of TECOM's memorandum, as it may not yield the desired effects.

Institution as a lifelong learner

A commitment to continuous improvement is a duty owed by educators to the general public.[76]

An educational institution can model for its students the value of lifelong learning in two ways. First, institutions can have an active, transparent, rigorous assessment program from which it gains institutional insights and acts on them to inform curricular evolution and future direction. And second, leaders can design adaptable institutional structures and programs that integrate and act on assessment findings and future requirements to advance institutional and programmatic vision.

Like lifelong learning for individual professionals, the American Association of Higher Education sees assessment as an institutional responsibility to the public, to give them evidence that they are producing trusted, capable professionals. In the American Association of Higher

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[72] Duderstadt, 53.

[73] Peter Scales, Jo Pickering, et al., *Continuing Professional Development in the Lifelong Learning Sector* (Berkshire, England: McGraw Hill Open University Press, 2011), 1.

[74] Scales, Pickering, et al., 9.

[75] Robert E. Rinehart, "Neoliberalism, Audit Culture, and Teachers: Empowering Goal Setting within Audit Culture," *Teachers and Curriculum* 16, no. 1 (2016), 32.

[76] Stuckey et al., 204.

Education's *Principles of Good Practice in Student Assessment*, the authors explain,

> **Through assessment, educators meet responsibilities to students and to the public. There is a compelling public stake in education.** As educators, we have a responsibility to the public that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation – to ourselves, our students, and society – is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.[77] (emphasis in the original)

There needs to be an institutional commitment to engaging in routinized collection practices, asking the right questions, employing the correct tools to seek the answers, and re-envisioning the questions and associated tools as needed. There is a temptation to focus on what is easily measured versus on what needs to be measured. "We have to be careful that we keep our focus on measuring what we value rather than the reverse – valuing what we can easily measure."[78] It requires an ethical commitment to developing assessment approaches[79] when considering the challenges in assessing student outcomes in such areas as metacognition, motivation, judgment, and normative development. But as Hamdorf and Hall state, "It is generally agreed that it is better to measure uncertainly the significant than to measure reliably and validly the trivial."[80]

The learning institutions within the Marine Corps have active assessment programs. However, in calling for change, the Commanding General of TECOM recognizes the need to evolve assessment practices to align with the requirements.

> This means that our measure of success has to change. Instead of evaluating and grading the processes that make up most of what we do throughout this command on a day to day basis, we need to focus on our product: a well-trained and educated Marine, well trained and ready units, and feedback from our customers (the operating forces) about all that we are providing.[81]

Such an approach implies an evolution of collection methods, some of which are time and resource intensive and need diversified skillsets in the evaluators. These require an organizational normative shift in hiring practices, the hyper-valuation of quantitative data, and the rapid expectation of results. Marine Corps University has already begun to undertake this transformative step in assessment practices under the leadership of its Institutional Research, Assessment, and Planning Office, as part of its Quality Enhancement Plan, and in the work of and through collaboration with MCU's Center for Advanced Operational Culture Learning.

However, conducting assessment alone is not enough. To be lifelong learning institutions, institutions must be willing and able to act on what they learn. The latter is crucial and often the larger obstacle to institutional change. For an institution to be able to change and meet evolving

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[77] Alexander W. Astin, Trudy W. Banta, et al. "Principles of Good Practice for Assessing Student Learning" (1992) as included in Pat Hutchings, Peter T. Ewell, et al., "AAHE Principles of Good Practice: Aging Nicely" (American Association of Higher Education, 2002), accessed October 23, 2018, http://www.learningoutcomesassessment.org/PrinciplesofAssessment.html#AAHE.
[78] Punya Mishra, Danah Henriksen, et al., "A NEW Approach to Defining and Measuring Creativity: Rethinking Technology & Creativity in the 21st Century," *TechTrends* 57, no. 5 (September/October 2013), 12.
[79] Please see the Center for Advanced Operational Culture Learning's annotated bibliographies *Ethics Assessment Bibliography* (December 30, 2015) and *Creative Problem Solving Annotated Bibliography* (November 16, 2015) for resources on assessment in these areas.
[80] Jeffrey M. Hamdorf and John C. Hall, "The development of undergraduate curricula in surgery: III. Assessment," *ANZ Journal of Surgery* 71, no. 1 (January 2001), 178.
[81] Mullen (2018), 2.

organizational requirements, it must have flexible, adaptable structures and processes. Institutional design, guiding policies, and norms structure organizational response to change, challenges, and innovation. Organizations that are rigidly hierarchical and/or accustomed to traditional management models can find it difficult to change, even when leaders desire to do so and especially when seeking transformational change. According to Gary Hamel, a business management leader, there is a need to radically evolve the organizational culture and "the deep principles on which [the] organizations are built" to allow for change to happen. He notes,

> until we change that underlying organisation architecture, until we start to pull apart the traditional pyramid, and until we challenge those fundamental assumptions about our organisations, that it would be very difficult to build companies that were truly innovative or truly adaptable or inspiring places to work. I wish I could have … understood that the single biggest barrier to building more capable organisations is that legacy, tradition-encrusted manager model. Like many other academics and leaders and consultants around the world, I simply took that for granted. I really couldn't imagine an alternative ….[82]

For those in military organizations, this is an uncomfortable juncture, as the requirements for transformation seem to be attacking the very nature of the military organization. And in a sense they are – at least in how this model has been applied in the business world. For the business world, the utility of traditional models is waning due to the globalized economy and rapid technology innovation. For companies it is no longer about "being really good at doing some particular thing[;] companies must be really good at learning how to do new things."[83] And for that they must have structures and policies that allow them to adapt to those newly emerging requirements. That is the lesson for military leaders to take from this – how to break rigid constructions of what "right" looks like, for example, for how universities should be structured and run or professional development should be carried out and to consider different structural, policy, and normative constructs that allow the institutions to act on change.

The unpredictability of the future and the rapidity of change require leaders of any organization, including professional schools, to put in place adaptable structures, policies, and programs to respond to evolving requirements. For the military professional schools, there is the added layer of complexity of nesting the professional school within the military's hierarchical structure. According to Kerry Fosher, the Marine Corps can leverage existing narratives and processes, however, in innovative ways to meet transformational challenges and create the needed adaptable organizations throughout Marine Corps learning organizations. She notes,

> The Marine Corps has some advantages in meeting the challenges of transforming its organizations and to be sufficiently adaptable to face new ones. While most Marine Corps organizations are hierarchical and the government civilian processes are outdated, Marine Corps culture contains many alternative narratives and processes that are aligned with adaptable organizations. Narratives such as those associated with the "adapt and overcome" adage and experience with matrixed organizational structures and processes such as the Marine Air-Ground Task Force model provide ways of thinking that are more

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[82] Gary Hamel, interview by Neelima Mahajan, Founding Fuel, 30 March 2015, accessed November 27, 2018, http://www.foundingfuel.com/article/the-gary-hamel-interview-unleashing-another-revolution/.
[83] Martin Reeves and Mike Deimler, "Adaptability: The New Competitive Advantage," *Harvard Business Review* (July/August 2011), accessed November 27, 2018, https://hbr.org/2011/07/adaptability-the-new-competitive-advantage.

conducive to adaptability.[84]
Military leaders need to determine the balance between competing structural norms and requirements and design polices and normative constructs to facilitate adaptive design.

A Pedagogical Response

The most daunting pedagogic challenge facings schools ... is how to help students develop important skills and values that are insufficiently understood to be taught effectively.[85]

Derek Bok, quoted above, includes the skills of communicating persuasively and empathetically with ever more diverse populations, leadership, creativity, and judgment as those difficult to teach areas. Add those to the list in the preceding section and coupled with extant external pressures, it is a recipe for an overburdened curriculum. As the Commanding General of TECOM noted, there is a 'main thing' that future professionals in their respective fields need to know. That will not go away. Careful and continual reexamination to evolve the main thing as requirements and context change is imperative to avoid reengaging in the additive method of curriculum improvement.

How one teaches that main thing to ensure also the development of cognitive skills and professional formation received much attention throughout the professions. Many resources discussed best practices found in various schools or taught by particular teachers to provide narrative and examples of what "different" looks like. Marine Corps University, through its Quality Enhancement Plan, has already begun to address the need to shift pedagogical practices to help enhance creative problem solving in its students. How this has filtered throughout the institution and into other Marine Corps learning institutions is an area that could be explored. Additionally, how other professions are thinking about this is useful as well. Three areas emerge. One was already discussed above – integrating humanities into professional development and will not be further developed here, except to say that its inclusion needs to be integrative, not additive or stovepiped into stand-alone courses. The two other areas are reflection and creativity.

Reflection

"To release four hands" is used when you and the enemy are contending with the same spirit, and the issue cannot be decided. Abandon this spirit and win through an alternative resource. ... In single combat also, when we think we have fallen into the "four hands" situation, we must defeat the enemy by changing our mind and applying a suitable technique according to his condition. You must be able to judge this.[86]

As noted in the description of lifelong learners by Claxton in a preceding section, there is a need for students to be able to reflect on one's own learning progress and progression to shape personal and professional advancement. As Stuckey et al. have observed in the legal profession, "The entire law school experience should help students become expert in reflecting on their learning process, identifying the causes of both successes and failures, and using that knowledge

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[84] Kerry Fosher, "Notes on Marine Corps Organizations and Processes," unpublished research material (in author's possession, 2013).
[85] Bok, 312.
[86] Miyamoto Musashi, *The Book of Five Rings* (Bottom of the Hill Publishing, 2010), 41.

to plan future efforts to learn with a goal of continuous improvement."[87] This becomes especially important as students become practitioners and continue to develop professionally. Teaching students this process can be and, some argue, needs to be intentional to help students integrate their experiences into their professional development and to determine what to do in those ever-present ambiguous decision points in day-to-day practice. One way to do this is to incorporate pedagogies of reflection into curricula.

The indeterminate or swampy zones of practice, as named by Donald Schon, are encountered when the problem presented defies "solution through the application of research-based theory and technique."[88] Swampy problems tend to be multi-faceted, value conflicted, novel, and commonplace. Practitioners routinely find themselves in situations that present outside the confines of their knowledge and skill comfort zone. Those who navigate these situations well through to action are considered blessed with "'wisdom,' 'talent,' 'intuition,' or 'artistry.'"[89] But in actuality, these are the professionals who have mastered the ability to reflect on their situation, integrate both their learned and tacit knowledge and past experience, adjust as needed, and act. Scales, Pickering, et al. note, "When something isn't working, one draws on past experience to reason why and to adjust …."[90] Later, those professionals revisit that situation to seek improvement. In *Educating the Reflective Practitioner*, Schon highlights pedagogies that instill this reflective practice in students, teaching students through coaching, dialogue, reflection, and redirection to "respond to the indeterminate zones of practice by holding a reflective conversation with the materials of their situations."[91] If educators prepare their students to approach problems with this mindset, the students will "assume neither that existing knowledge fits every case nor that every problem has a right answer."[92] Some methods for developing this skill include having students keep journals about their learning process, coach/mentor-student feedback sessions, peer evaluations, collaborative work, and prompting questions about student thinking in either written or oral form. The key is getting students practiced at transparently thinking through their thinking processes, challenging assumptions, and seeing the gaps between taught theory and the problems they will encounter in the professional setting. Such practices incorporated into daily educational encounters can transform into seamless action once in practice. Additionally, employing this practice as a professional educator enhances student classroom experience and learning potential. So it involves not only instilling the practice in students but engaging in it as professional educators and as institutions as well.

Creativity

Complex capacities like creativity and reflection are honed as students encounter knowledge in new contexts and open-ended or unscripted problems. A student's sense of how knowledge relates to life grows by grappling with untidy social questions.[93]

Like reflection, the need for creativity comes up in the literature, frequently noting it is a

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[87] Stuckey et al., 49.
[88] Schon, 3.
[89] Schon, 13; see also Claxton, 29.
[90] Scales, Pickering, et. al., 36.
[91] Schon, 36.
[92] Schon, 39.
[93] Association of American Colleges and Universities, "Greater Expectations: A New Vision for Learning as a Nation Goes to College" (2002), 32.

required thinking process for 21st century success.

> The increasing value a knowledge-driven society places upon creativity and innovation suggests we might even speculate that the university of the 21st-century should also shift its intellectual focus and priority from the preservation or transmission of knowledge to the processes of creativity and innovation themselves.[94]

That to the exclusion of the 'main thing' is a bit overzealous; however, there is merit to broadening the construct of the 'main thing' to emphasize creativity and innovation as integral to and integrated into the profession's main thing, not as additional. Creativity is noted as needed, complex, and difficult to assess. The Marine Corps University's Quality Enhancement Plan's focus on creative problem solving is but one example from the professions of efforts to enhance this capability among students. Having creativity as an outcome demands different instructional methods, materials, and assessments. Sometimes this can include subject areas and forms, such as poetry, art, and literature, previously thought of as extraneous in the pursuit of scientific knowledge, which led to a devaluation of them. Inclusion of such subject areas and forms may require a value reorientation and, especially in the military, evolving constructions of masculinity and what constitutes valued knowledge to get buy-in from the students and potentially some educators.

Marine Corps as an exemplar to other professions – A transformative path forward

Never forget, our willingness to take the Oath of Office and to accept the associated responsibilities means that even citizens who have never met us trust us to do the right thing, never abusing our position nor looking the other way when we see something wrong.[95]

With the issuance of his guidance, the Commanding General has indicated a willingness to take a transformative step at recreating Marines' professional preparation to ensure the outcome of the Marine Corps professional preparation – the Marine – enacts the professional identity aligned with organizational expectations and requirements needed to fulfill its contract with society. Unlike in other professions, due to the uniqueness of the military environment and the size of the Marine Corps, he has the authority and power to initiate the sea change he calls for. Furthermore, because of his span of control over the training and education continuum, the changes can be cohesive and integrated and persistent and consistent throughout the totality of professional development of Marines. Additionally, unlike other professions, Marines have embedded opportunities throughout their careers to engage with the training and educational institutions and, with that, there is a significant opportunity for a continuum of transformational reform. The actions taken here can serve to inform the actions of other professions as they grapple with similar challenges but lack the unique petri dish that is the Marine Corps.

To realize transformation, one needs to ensure cohesiveness throughout the continuum of change. Oftentimes, the scope is too narrow, solely focusing on one aspect (pedagogy) or one level of learning (Marine Corps University schools)[96] instead of seeing how all the parts can and do work together. Ensuring future direction includes all facets – normative, programmatic,

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[94] Duderstadt, 53.

[95] James Mattis, *Ethical Standards for All Hands*, Department of Defense memorandum (August 4, 2017).

[96] See Mary Hager and Sue Russel, eds., "Revisiting the Medical School Educational Mission at a Time of Expansion," conference proceedings (Charleston, SC: Josiah Macy, Jr. Foundation, 2008) for a discussion about considering the various components of medical education not as disconnected pieces but as a continuum.

pedagogical, and structural – of change and that they reinforce and compliment rather than duplicate or undermine each other is imperative. The Commanding General's noting that officer professional development begins at the Basic School (I would expand to include enlisted personnel and the Recruit Depots here as well) is instructive to the Marine Corps to think beyond institutional and curricular walls when thinking about transforming professional preparation. Oftentimes, due to span of control and the institutional decision to place professional formation under two different command structures, there is an unnatural divide between the Basic School and Recruit Depots and the ensuing officer and enlisted PME programs that can result in disjointed efforts in professional formation. Looking at the whole system and laying out all of the component pieces will help explore opportunities and linkages and identify potential gaps and duplications. As an example, questions such as 'Do Marines need both the self-study and the Commandant's Professional Reading List tasks for rank or should leaders create an integrated requirement?' and 'how does the proposed distance work pre-Expeditionary Warfare School fit in with the self-study and the Professional Reading List tasks for rank?' arise when reading through the tasking memo. Leaders have an ethical responsibility to craft reasonable, rightsized requirements, not leaving the ethical dilemma up to individual Marines to decide which requirements to ignore due to time constraints. In the memorandum, there is discussion of mandatory self-study, preparatory work for entrance into schools, and existing training and education requirements as well as recognition for the need for lightening the load on Marines and units. Maintaining strategic oversight over the tactical and operational changes will ensure a cohesive response and path forward.

Also, the Marine Corps will need to discern a viable path forward for creating the adaptable organizational structures and processes needed to enact and sustain the transformation and accommodate and adjust to future unknowns. Many of the professions, as seen in the preceding discussion, can see the problems. The solutions stagnate behind existing structures, processes, and norms that are so ingrained that they seem the only solution. But they are not; they were the solution for the expired problem set. Moving forward to align organizational structures and practices will challenge deep seated notions of authority and what the "right" way is. It will require an openness to alternative structural models and processes and a willingness to do "different" and "differently." Success requires both the willingness and the ability to change.

Additionally, taking on the long-term strategy of normative change is critical to the success of transforming professional development. "The development of learning power starts not with the cultivation of its skills and qualities, but with the preparation of the ground"[97], or in other words, the cultural context within which the learning occurs, as that shapes what the learning is. Within the Marine Corps at the professional school level, there is an opportunity to extend the role of creativity beyond enhancing student ability to devise novel solutions to complex problems, albeit that alone is a worthy endeavor, to one that includes employing the same thinking processes to the problems confronting the profession. Modeling the behavior institutionally and creating or reorienting institutional structure and resources to support institutional creativity with regard to professional formation can support normative efforts in recrafting professional identity at the individual and organizational levels. The Marine professional preparation institutions could serve as creative bodies of inquiry and professional formation where knowledge creation, innovative thinking across a range of topics and disciplines, and debate occur to advance the military

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[97] Claxton, 20.

profession and the formation of its professionals. They could be places where students (both resident/non-resident) and Marines throughout their careers can find support with their questions and that work with Marines throughout their career to deepen professional curiosity and imagination and maintain their intrinsic fascination with their chosen profession, the last two critical to realizing the Commanding General of TECOM's vision. Imagine what forms that could take and the programming, structures, and practices that could emerge. The Marine Corps already has a center dedicated to creativity and innovation in Marine Corps University's Brute Krulak Center for Innovation and Creativity that could lead the way in this transformative process, although to do so, it would require broadened theoretical and methodological representation. Consider the self-study task alone[98], as conceived in the 2012 article, which risks being interpreted as a proscriptive, standardized, one size fits all solution to professional development that aligns with the 20th century construct of content supremacy, and how that could be transformed through rewrapping in normative constructs, repackaging through pedagogical practices, and being able to trust practitioners to uphold their ethical and realistically constructed professional responsibilities.

How far the vision laid out in the Commanding General of TECOM's memorandum will go is up to the Marine Corps and how willing the organization and its members are to embrace the normative changes and to make the hard structural, personnel, programmatic, pedagogical, and assessment changes needed. There are examples of others from which to draw inspiration – at the professional school level[99] and within individual faculty members. The opportunity here for the Marine Corps is to show the other professions how to enact what other professions are calling for and doing at a local level throughout an entire profession and its associated professional formation institutions. Yes, the Marine profession is part of the broader profession of arms, but it is also a unique profession within that, a large sub-specialty so to speak. The experiences here can inform the broader community of professions and also introduce into that community a voice from the profession of arms.

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[98] The task reads: "Task 5.i. **Officer and SNCO Career Length PME Continuums** - (MCU Lead) Codify and institutionalize career length PME programs of the type delineated in my June 2012 Gazette article. We cannot replace the unique value of formal PME experiences, but not everyone is able to go to school on-site or in seminar and there are large time gaps in between these experiences. Self-study is the most important aspect of any PME system, but not all Marines are doing enough of it. We need to develop a career length program to assist Marines and unit commanders in this regard together with an enforcement mechanism that displays completion progress on the Master Brief Sheet. Our Marines have to understand that continuous learning is an absolute expectation of the profession of arms. The price of a lack of competence in our profession is filling body bags until we figure it out - this is unacceptable and in other professions is considered gross malpractice." Mullen (2018), 4-5.
[99] See, for example, John Rock, "FIU medical school is saving lives in Miami," *Miami Herald* (Miami, FL), July 18, 2016, accessed June 20, 2018, http://www.miamiherald.com/opinion/op-ed/article90404857.html; Anthony A. Maciejewski, Thomas W. Chen, et al., "A Holistic Approach to Transforming Undergraduate Electrical Engineering Education," *IEEE Access* 5 (March 31, 2017), 8148-8161, accessed June 19, 2018, https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7891011.

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