

Marine Corps Instructor Mastery Model: A Foundation for Marine Faculty Professional Development

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ABSTRACT

This paper reports on the creation of a USMC Instructor Mastery Model and its utilization for setting performance standards and assessing instructor performance. The Mastery Model is derived from the Dreyfus and Dreyfus model of cognitive skill acquisition. It makes the path to mastery explicit by specifying how individuals progressively develop into high performers and what indicators can be observed and assessed during each of five stages of development. To customize the model for Marine instructors, reviews of the literature and other services' instructor development approaches were conducted. Semi-structured interviews were conducted with 93 highly skilled instructors at 15 USMC learning institutions. Thematic analysis and card sorts were employed to understand what a skilled Marine instructor does and define 10 Key Performance Areas (KPA's). A second analysis examined how an instructor performs at the five stages of development and yielded performance indicators for each KPA at each stage. Outcomes were examined against teacher competencies from the literature to compare military and civilian instruction. The final set of KPA's has been adopted by TECOM and included in the Train the Trainer Training and Readiness (T&R) Manual in the form of five T&R events and five appended learning outcomes. The next step is to produce an Instructor Assessment Battery and observation rubric to enable assessment of individuals' progressive skill development as well as program- and policy-level impact assessments.

ABOUT THE AUTHORS

Jennifer Vogel-Walcutt is a Senior Scientist at the Cognitive Performance Group with over 15 years of experience in research and development for training and education. Dr. Vogel-Walcutt's recent interests focus primarily on developing instructional techniques to improve the effectiveness and efficiency of training military personnel. Projects in development currently focus on the application of these techniques to develop specific skills such as perception, metacognition, and decision making. Dr. Vogel-Walcutt has acted as PI or co-PI on several large, federally funded, education and military grants.

Jennifer K. Phillips is the Chief Operating Officer and a Senior Scientist at the Cognitive Performance Group. Her research interests include skill acquisition, cognitive performance improvement, and the nature of expertise. Ms. Phillips applies cognitive task analysis and related techniques to model performance across the levels of proficiency, designs learning solutions including decision-centered training scenarios and facilitation techniques, and develops metrics for cognition and decision making. She is currently supporting the Marine Corps' Small Unit Decision Making initiatives and instructor professional development efforts, and recently served as program leader for an effort to develop a Decision Training Toolkit for Marines and Soldiers.

Karol G. Ross is the Chief Scientist for Cognitive Performance Group where she conducts applied research using qualitative and quantitative methods to develop performance models, training, and assessments in military environments. Her prior research includes a project to refine a general five-stage model of cognitive skills acquisition to support training development. She applied this model to the development of a tactical thinking model and a Tactical Thinking Behaviorally Anchored Rating Scale for the US Army. Dr. Ross has been the PI for work in cross-cultural competence modeling and assessment in projects for the U.S. Army Research Institute and the Defense Equal Opportunity Management Institute. She has conducted research to develop a performance model and assessment tool for cognitive skills related to counter-IED performance. She has developed models of performance for and supported

development of a training product for the Joint, Interagency, Intergovernmental, and Multinational operating environment. Dr. Ross recently served as the PI for an ONR research effort to develop a mastery model and an assessment battery to support USMC infantry squad leader development. She is currently the PI for the Master Instructor Development program (MInD) for ONR in support of the USMC which includes development of a mastery model and instructor assessment battery. Dr. Ross earned a Ph.D. in Experimental Psychology from the University of Tennessee and was previously employed at the UCF Institute for Simulation and Training, Klein Associates, and the Army Research Lab before co-founding the Cognitive Performance Group.

Kenneth A. Knarr is a Senior Program Manager at II Corps Consultants, Incorporated. His research interests include accelerated learning, expertise development, cognitive readiness, and faculty development. Mr. Knarr is a retired Marine Corps officer with specialties in the infantry, information management, surface-to-air weapons, and aviation command and control occupational fields. He was a High School teacher for several years prior to his tenure in the Marine Corps. He is currently supporting the Marine Corps' Small Unit Decision Making and Faculty Professional Development initiatives.

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INTRODUCTION

Background and Purpose

Instructors, advisors, and faculty in U.S. Marine Corps (USMC) formal schools (collectively referenced hereafter as instructors) have a critical role and impact in preparing Marines for the challenges they will encounter in today's operating environments. As is the case with most USMC billets, many active duty instructors arrive to the three-year tour of duty with no prior instructional training or experience apart from coaching skills they may have developed as unit leaders. They have only a short period of time to become effective as teachers. Further, the formal training and education system has inconsistently kept pace with the increasingly complex decision responsibilities of small unit leaders and noncommissioned officers (NCOs), and the advances in the learning sciences for developing higher order skills in these populations. While some formal schools continue to implement cutting edge instructor development approaches to hasten the acquisition of sound instructional skills, some issues still remain. Specifically, performance standards and best practices in developing and assessing instructors have not been made available across the training and education system. Additionally, standardization to ensure high quality instruction across the force remains a challenge. The USMC Training and Education Command (TECOM) and the Office of Naval Research (ONR) recognize these gaps and have implemented working group initiatives and research programs, respectively. The overall goal of these efforts is to leverage best practices in train-the-trainer approaches, professional military education, and the learning sciences to reduce variation in instructor quality. More specifically, it is expected that these goals will be addressed by institutionalizing a validated approach to instructor development, focusing on instructional techniques that facilitate higher levels of service-wide mastery and cognitive readiness, and raising the bar on faculty and staff performance.

This paper reports on the first milestone of the ONR Master Instructor Development (MInD) research project in support of Marine instructor professionalization, the Marine Corps Instructor Mastery Model. The Instructor Mastery Model has been developed to create a foundation for standardized performance goals. It describes insights from experienced practitioners for instructors at all levels of the training and education community to understand the performance demands and requirements for success. These insights can support the selection and development of educational programs, training initiatives, sequencing of assignments, assessment of performance, or screening of potential instructors to ensure that the desired initial capabilities are being selected and the desired developmental progression is supported.

Literature Review

Given the extensive scholarly research on teacher education and development, a component of this research involved a survey of civilian literature. The purpose of this task was to identify instructor competencies and characteristics related to professional development to determine best practices outside the military. When available, military writings as well as personal communications were additionally analyzed to gather information about current development efforts in the different military services. A search of the academic databases using combinations of terms relevant to instructor and teaching expertise was conducted. The search terms included combinations of coaching, expertise, teacher competencies, development, effectiveness, master teachers, and mentoring. Additionally, military-specific material was obtained through personal and email contact from individuals familiar with instruction in each of the military services.

Theoretical Foundations

The primary areas of the literature considered focus on the definitions of and previous research on the creation of developmental models and the associated competencies and behaviors. The term “competency” is a multidimensional concept (Hoffmann, 1999) that has been defined as observable behaviors or skill sets (Spector & de la Teja, 2001). Competency-based initiatives require the development of three distinct, interactive components: a description of the competency, a means of measuring or assessing the competency, and a standard by which someone is judged to be competent (Jones, Voorhees, & Paulson, 2002). Through this review, several different approaches to developing these competency models were identified but generally, they involve four phases: (1) a review of pertinent literature and practice, (2) model identification and development, (3) competency validation, and (4) competency revision and final approval. When using these models, the novice to expert framework is useful for framing teacher preparation in a logical, coherent, and visible sequence.

K-12 and Higher Education

A substantial amount of research has been conducted within K-12 and higher education. While many of the competencies of focus in this area are geared toward children and the unique issues that surround teaching this age group, many other aspects of teaching will generalize across age groups and topic domains. With so much research having already been conducted with this group, it is important to consider and critically review those models that best match and provide the most insight into the generalizable teaching skills and progression. To that end, three major national frameworks for teaching were reviewed: Charlotte Danielson’s Framework for Teaching, the National Board for Professional Teaching Standards (NBPTS; 1991), and Berliner’s Model (2004).

Danielson’s Framework for Learning is one of the most commonly used observation protocols in school districts in the United States (Brandt, Mathers, Oliva, Brown-Sims, & Hess, 2007) and is a generic instrument that can be applied to all disciplines with some slight modifications. Based on an observational protocol, Danielson and colleagues designed an instrument to assess beginning teachers’ classroom performance. The goal of the National Board Professional Teaching Standards (NBPTS) is to identify and define the key competencies and skills that characterize great teachers. In 1989, they published a document entitled “What Teachers Should Know and Be Able to Do” that provided each of their five core propositions, definitions, the associated skills expected in each category, and created a scoring plan to use as a benchmark of skill level. Ultimately, the goal of this project was to create a process by which teachers could obtain board certification and identify themselves as performing at the highest level. Within higher education, the Berliner Model receives the most attention, primarily because of the amount of research and validation that was conducted. This model is adapted from the Dreyfus and Dreyfus (1986) developmental model and is based on a comprehensive review of existing observational, correlational, and experimental research on teaching.

Business and Industry

Two main frameworks from industry were relevant to this review. The first was the International Board of Standards for Training, Performance, and Instruction (ibstpi) which provides validated instructor competencies. The second was the American Society for Training & Development (ASTD) Competency Model, which provides a comprehensive model for developing professionals engaged in multiple instructional roles. Both models are geared toward instructors of adult education. The ibstpi model is more generic and can be applied to multiple domains whereas the ASTD model is primarily focused on professionals involved in training and education in the workplace. Both models have already been utilized in modified form in the US military: ibstpi competencies are part of the Coast Guard’s instructor development program; the Army’s Institute for NCO Professional Development recently instituted an instructor badging program based on ibstpi competencies; and the ASTD certificate courses are available on the US Army Training and Doctrine Command Career Program website (www.tradoc.army.mil).

Military

There is little quantitative research in the literature that measures the degree to which military instructors possess the required competencies to facilitate student learning. Additionally, research on military instruction is primarily qualitative, based on findings from interviews and focus groups (e.g., Cianciolo, Grover, Bickley, & Manning, 2011; Holmes-Eber, 2013). To date, military instructor development programs generally include a combination of

introductory courses, teaching hours, and evaluations from superiors. However, the degree to which these findings or current practices can be generalized and applied within the Marine Corps culture remains unclear. Further, due to the extreme situations in which they commonly operate, there is an inherent need to obtain as much knowledge as possible within the shortest timeframe. These unique time pressures and manners of operation and focus must be considered when developing an instructor development program and further, it is not expected that the currently available programs or metrics will meet these needs at the desired level. However, the current practices of other military branches offer the most similar comparison unit for the focus of this research and were therefore reviewed.

Summary

Significant research has been conducted in the area of instructor development models in a variety of complementary domains. Although not all the models reflect the same focus area or content of the Marines, several points can be learned from their efforts. For example, creation of these models typically begins with a review of current practices and literature, followed by expert interviews or input to identify key competencies and the progression of each skill, and finally ends with a validation and revision period. In addition to the areas of similarity, there are some key differences between civilian and military learning environments that were noted. For example, compared to civilian students in this body of research, who are generally children or young adults with limited life experience and general learning objectives, military (and business) learners are primarily adult learners, and usually experienced professionals with specific task-related objectives (Cianciolo et al., 2011). Furthermore, military instructors' tenures are usually short, so it may be difficult to find adequate time for professional development. Therefore, the general methodology and structure from existing models was used to inform the development process of a USMC-specific model, but the content of the model was derived from Marine instructors in order to maximize its applicability and usability.

METHOD

Participants

Interviews serving as the basis for the Instructor Mastery Model were conducted at 15 USMC Formal Schools, Academies, and learning institutions across Marine Corps Bases Camp Lejeune, Camp Pendleton, and Quantico, and the Marine Detachment at Fort Leonard Wood. Participants included a total of 93 Marine Corps instructors, both active duty Marines and civilians, consisting of 69 participants from Training Command and 24 participants from Education Command. All participants were serving in instructor, chief instructor, formal school manager, curriculum developer, or other school leadership billets, and as a group, represent a variety of ranks. The participants reported an average of 5.41 years of instructor experience with a standard deviation of 4.12 years. One participant was excluded from the data set due to insufficient data resulting in the total data set containing 92 participants.

Procedure

Before each interview, participants were provided an overview of the project objectives and informed that the purpose of the interview was to discuss the key responsibilities and developmental progression of an instructor. Data were obtained from each participant through a two-hour, semi-structured, in-person interview. Interviews were conducted individually with one or two researchers present. Interviews were digitally recorded and later transcribed as a means of accurately capturing all relevant information; researchers also took field notes.

Each interview commenced by capturing demographic information including current instructor billet, previous training and education, and an overview of the participant's USMC career background. Once the demographic information was captured, the researcher guided the participant in constructing a Task Diagram (Militello & Hutton, 1998). The researcher asked the participant to identify the four to six core task areas comprising the role of a highly effective instructor. The participant was asked to respond based on his or her own experience vice formalized descriptions of an instructor's responsibilities. In cases when the participant identified characteristics or traits of an effective instructor, these attributes were also captured, though the focus was on tasks and areas of performance. The participant named these areas and provided brief explanations of each area.

Next, the researcher used the Developmental Progression Interview Technique (DPIT; Phillips, Ross, Rivera, & Knarr, 2013) to collaboratively assemble a proficiency table with the participant. The researcher drew a five-column table

and explained that each column represented a level of instructor proficiency—novice, advanced beginner, competent, proficient, and expert. He or she made clear that the novice level of performance represented an inexperienced and/or untrained Marine instructor with the potential to achieve mastery, not an individual who failed to exemplify Marine values or general standards of performance. Participants were then asked to identify performance descriptors for each level. If necessary, tasks and areas of performance from the Task Diagrams were used to prompt the participant to describe the nature of performance at each of the five levels of proficiency. Researchers also asked participants about activities that result in improvement, or transition, from one level of proficiency to the next.

ANALYSIS

Two types of analyses were conducted. The first analysis sought to understand instructor duties by identifying critical tasks, jobs, and attributes and depicting them as a set of instructor Key Performance Areas (KPA). The second analysis was designed to understand how an instructor performs at different levels of proficiency, and yielded performance indicators for each KPA at each level. To understand the tasks and attributes associated with being an instructor, the research team reviewed the interview transcripts of a subset of the participants, whose levels of experience met stated criteria, to identify performance areas critical to effective teaching. The team sorted the extracted items into like categories to ultimately form the set of instructor KPAs. In the second analysis, aimed at describing how performance is carried out, the researchers reviewed the transcripts to correct and add to the proficiency tables documented by the researchers during the DPIT portion of the interviews. Descriptors captured in the proficiency tables were then sorted into the KPAs to form the model.

Across all four data collection sites, the subset of data used for the KPA analysis totaled 57 participants, 43 of whom represented a Training Command institution and 14 of whom represented Education Command. The sample reported an average of 7.07 years of experience with a standard deviation of 3.77 years. A total of 1,752 performance items were extracted from these transcripts from the most experienced instructors and independently sorted into the 10 finalized KPAs. The intraclass correlation coefficient for this analysis provided evidence to conclude strong interrater agreement among four researchers ($r=0.848$).

The proficiency tables from all data collection sites were combined in order to finalize the model and reflect the inclusion of input from all 92 participants. This master table was categorized by KPA, deconflicted as needed, and summarized by KPAs to form the Instructor Mastery Model. This model defines observable behaviors of instructors and how each of those behaviors is demonstrated at each of the five levels of proficiency. Finally, researchers constructed descriptions, or profiles, for each level of proficiency for each KPA based on a summary of the performance indicators contained in the table.

RESULTS

Mastery Model Overview

A stage model or developmental model generally consists of levels of progressive proficiency in a specific domain. It consists of an overall description for each stage that is some combination of a general behavioral description, specific behavioral descriptors or indicators of performance, key performance areas, attitudes, abilities, skills, knowledge, and general cognitive orientation (e.g., acceptance of difference, inward focus, a heightened sense of responsibility, or improved self-awareness). Such a model may also include the key developmental tasks that must be undertaken by the learner to move to the next stage of performance, strategies to support the learner in moving to the next stage, and challenges the learner must overcome, as well as recommended assessment strategies by stage.

The basis for the structure of the Marine Corps Instructor Mastery Model is research (Ross, Phillips, & Cohn, 2009) that expanded the original Dreyfus and Dreyfus model of skill acquisition (Dreyfus & Dreyfus, 1980; 1986). The Dreyfus and Dreyfus five stage model describes performance at different stages during development—novice, advanced beginner, competent, proficient, and expert. It has been applied to domains such as combat aviation, nursing, industrial accounting, psychotherapy, language acquisition, instruction, and chess (see for example, Benner, 1984, 2004; Berliner, 2004; Dreyfus & Dreyfus, 1980; Houldsworth, O'Brien, Butler, & Edwards, 1997; and McElroy,

Greiner, & de Chesnay, 1991). Many of these domains demand that decisions be made in environments that are complex, ambiguous, and dynamic. Further skill can be acquired only through firsthand experience doing the task. The Instructor Mastery Model uses this framework as its basis and includes (1) KPAs with definitions and subcategories of performance, (2) descriptive performance profiles summarizing each stage of development for each KPA, (3) performance indicators for each KPA at each stage of development, and (4) a summary of the factors to target to support the transition of the Marine instructor from stage to stage.

Key Performance Areas

Analysis resulted in 10 KPAs which were named and defined based on items pulled from the interviews that defined the actions of Marine instructor performance (see Table 1). These descriptors were grouped into each KPA and were used to construct the definitions so as to retain the voice of the Marine participants. Following the KPA analysis, the team pulled all references to performance indicators from the interviews. All performance indicators were sorted into stages of performance for each KPA.

Table 1. Key Performance Area Definitions

| KPA | Definition |
|--|--|
| Instructional Technique | Knowing and applying a variety of methods and strategies to secure student attention, enhance student participation, and facilitate learning, and the ability to select and adapt approaches based on learning goals and the student population. |
| Setting the Example | The mental, physical, and character traits of an individual who embodies USMC values and ethos, demonstrates professionalism and command presence, garners respect and trust, and displays passion and commitment to the job. |
| Communication and Delivery | Clearly, concisely, dynamically, and interactively exchanging information to transfer knowledge and promote understanding, using a combination of verbal, nonverbal, and other communication approaches. |
| Self-Improvement | The motivation to continually increase domain knowledge and enhance instructor skills by actively seeking and engaging in a variety of knowledge and skill acquisition activities. |
| Developing Subordinates and Peers | Establishing relationships with students and peers to mentor, coach, advise, and guide their development. |
| Planning and Preparation | Reviewing, generating, and adapting teaching materials, rehearsing for delivery, and proactively planning the administration and logistics of course delivery based on learning objectives, the role of the course within the institution's progression of instruction, and anticipated student characteristics and questions. |
| Learning Environment | Setting and maintaining the conditions for a respectful, engaging, and motivating atmosphere that encourages active collaboration by managing time, the physical space, and student behavior. |
| Assessing Effectiveness | Knowing and applying formal and informal assessment techniques to gauge the effectiveness of the instruction, accurately verify student knowledge, and provide performance feedback to students. |
| Subject Matter Expertise | Maintaining technical and tactical proficiency in course content and associated principles to be regarded as a credible source of information, and applying that knowledge and experience to facilitate learning. |
| Community of Practice | Actively contributing to enhancing the collective body of instructional expertise, examining organizational practices and processes to achieve desired learning outcomes, and socializing recommendations for improving institutional and service-wide methods to meet USMC standards. |

Five Stages

The purpose of education and training is to move individuals from their current state of skill and knowledge to a higher state of mastery. To facilitate and assess that process, we need to know the developmental progression in the domain

of interest. However, individual professional development is a non-linear process influenced by several factors. Rate of growth depends on individual differences in motivation, dedication, and aptitude. In addition, baseline proficiency within each of the KPAs as a result of prior leader and/or instructional experience impacts growth, and these baselines vary from instructor to instructor. For example, an individual may exhibit Stage 2 behaviors on one KPA but Stage 3 behaviors on another. It is normal for an individual to progress in one area of performance faster than in another, and therefore exhibit indicators of transitioning to a higher stage of proficiency in some areas but not others. Because individual differences create variation in developmental needs, there is no single best path to achieve development goals. Without a commonly recognized account of the stages of development along a continuum, we lack a roadmap with which to predict and understand performance resulting from efforts to support improvement toward mastery. Therefore, by using the performance indicators in the five-stage model, training and education efforts can target developmental activities more specifically, include more refined assessments, and provide more targeted feedback. The big picture resulting from such a model allows the learner and instructor to understand developmental leaps and lags in the context of the generally non-linear path toward mastery.

Model Summary and Excerpt

An excerpt from the model is provided in Table 2 to illustrate how it is organized by KPA (left column) and then by stage. Behaviors representative of each stage of performance are provided. The full version of the model contains 1743 behaviors across the 10 KPAs which are further divided into 32 sub-categories.

Table 2. Excerpt of the Key Performance Areas, Stages, and Performance Indicators from the Mastery Model

| | Novice | Adv. Beginner | Competent | Proficient | Expert |
|-----------------------------------|---|---|--|--|---|
| Instructional Technique | Lecture = Primary teaching strategy | Focuses on telling stories vice leading discussions about the experiences | Finds different strategies to get teaching points across if lecture is not working | Uses exercises or activities that make students feel they are in charge of the class | Applies different instructional strategies based on assessment of students' individual learning processes |
| Setting the Example | Is concerned about how he/she will look in front of students | Keeps up to standards for physical fitness; sets a positive example | Begins to realize the importance of leading by example | Takes ownership and is accountable for class performance | Displays motivation to give back to the USMC and provide knowledge to students |
| Communication and Delivery | Presents materials in an awkward, hesitant, choppy, and distracting manner | Focuses on transmitting information instead of whether students grasp the materials | Is comfortable and not nervous in front of people, as long as he/she is prepared | Balances delivery well, with less lecture time and more student participation time | Engages, motivates, and connects with students; Articulates concepts in an understandable manner |
| Self-improvement | Struggles to integrate feedback from others to improve performance | Considers feedback about past performance when preparing for instruction | Requests and accepts critiques, feedback, and assistance from more experienced instructors | Demonstrates awareness of own weaknesses and diligently focuses on improving them | Possesses a strong sense of humility and an honest view of self |
| Developing Subordinates and Peers | Does not know enough about teaching the course to be able to give advice to other instructors | Compensates as a mentor by being parental instead of thought provoking | Shows personal investment in the students; sees the bigger picture of the instructor's role | Builds mutually respectful relationships with students | Builds teams within the instructor cadre; routinely shares new knowledge with others |
| Planning and Preparation | Needs someone to physically walk him/her through the class preparations | Rehearses for class using a checklist to verify all learning objectives will be met | Has increased vision for the course; Takes more ownership; Is more proactive; Strays from Master Lesson File | Creatively reorganizes materials to use classroom time more efficiently; Foresees problems | Mentally simulates his/her presentation, anticipated questions, and reactions |

| | | | | | |
|---------------------------------|---|--|---|--|---|
| Learning Environment | Believes student is responsible for learning the material, rather than taking ownership | Ensures the class is set up and operational before students arrive for instruction; Talks at students instead of interacting | Organizes the classroom so that each student can participate; Focuses on the students' needs | Creates a respectful learning environment that encourages information exchange | Customizes the classroom to fit each student's personality and presentation style; Makes students central to learning |
| Assessing Effectiveness | Asks students only the required, basic checks on learning | Relies on tests and checklists to assess student understanding | Asks probing questions to look for logic flaws and gaps in student understanding | Experiments with and utilizes more qualitative assessment methods | Understands students' mental models and anticipates when the students will not understand information |
| Subject Matter Expertise | Obtained knowledge from fleet experience, but needs instructional coaching | Knows content of technical manuals, but lacks experience instructing | Understands the why behind the material and is starting to explain subject importance | Has detailed course knowledge that enables him/her to deepen student understanding | Masters the entire scope of the curriculum; Knows course content and how to apply it |
| Community of Practice | Has little understanding of instructors' additional duties | Starts to understand how elements within the Program of Instruction fit together | Begins to connect the Program of Instruction across different classes in the Formal Learning Center | Participates in institutional reviews that provide inputs to improve overall quality | Understands a Marine's career learning process and where the current instruction fits |

TRANSITION FROM STAGE TO STAGE

As instructors receive training, gain experience, and benefit from the mentorship of more experienced instructors they naturally progress along the stages of development. However, the Mastery Model data taken together reveal important shifts and transitions that must occur as enablers for movement to the next stage of development. By understanding these transitions and focusing on the events and activities that prompt them, interventions can be purposefully built and timed to accelerate an individual's path to mastery. For example, novices frequently focus on themselves during lecture and consequently appear nervous. The model provides explicit behaviors that would be demonstrated by an advanced beginner allowing the novice to have a clear set of goal behaviors to attain and emulate. Accordingly, more efficient development is expected. The Instructor Mastery Model identifies six skill states and the associated events or activities required to move instructors to higher levels of performance. We term the prerequisites for growth, transition factors. Three of these skill states and shifts in performance as a result of transition factors are described below.

From Internal to External Focus

As novices, individuals focus on their own performance, how to improve it, and what others think of them. They are concerned about knowing the material and transmitting the right words during class. They often change their behavior when an authority figure is in the room. They speed through a lesson to get off the platform because of the discomfort associated with being on the spot. As instructors improve, they experience a state shift, from an internal to external focus. The transition factor is a "click," or insight, that being an instructor is about focusing on student learning and growth, not one's own performance. Individuals realize that an instructor's job is to describe concepts in a manner the students can understand and model the behaviors of a professional Marine. The change in state from internal to external focus is one of the first fundamental shifts in an instructor's career.

From Transmission to Interaction

At the novice stage, individuals tend to read from the slides word for word. Advanced beginners improve slightly by incorporating stories and examples from their own experience, but they continue to adhere to transmitting the script. Around the end of the advanced beginner stage, instructors shift from a state of viewing instruction as transmission of information to a view of instruction that depends on student interaction. The transition factor is the realization that

learning itself is highly dependent on student engagement and interaction in the lesson. This conceptual shift launches instructors into a phase of experimenting with and refining new teaching methods to gain student interest and interaction in class. As a result of these activities in Stage 3, instructors experience another foundational shift in understanding and skill state. As they hone their skills at interacting with students, they learn to ask questions and facilitate dialogue in a manner that forces increased critical thinking. Proficient and expert instructors move into a phase of not only interacting with students, but making student involvement and contributions central to the instruction. As a result, students are not only engaged and interested in the class, but they learn to think critically and discover connections among concepts and applications.

From Scripting to Adaptation

Adaptability is important to instructors because it allows them to adjust or change their teaching methods to students' needs. However, in the novice and advanced beginner stages, instructors have limited or no ability to read the audience to determine whether learning is occurring. They have an insufficient understanding of typicality (i.e., what a typical flow, response, etc., should be to the instruction). Novices are too focused on their own performance to consider the student perspective, and while advanced beginners are better attuned to students' attention, they still struggle to read all the cues associated with comprehension or confusion. Their skill state is one of low adaptability. Competent, Stage 3 performers, become attuned to and able to assess whether students understand the lesson, in large part due to the increased interaction they stimulate. However, their skill state is still one of low adaptation; they are unlikely to change their tactics during class. Instead, they implement the planned techniques and deal with student misunderstandings by encouraging and answering student questions. By the end of the competent stage, instructors experience a set of transition factors that result in a shift in skill state. They are able to assess learning, and they become deeply aware of learning styles and how particular instructional techniques support those styles differentially. They put their skills at assessing learning effectiveness into action by adjusting their methods, examples, and techniques. Finally, proficient and expert instructors move to a skill state of adapting on-the-fly to student reactions and their assessments of student comprehension.

UTILIZATION OF THE MODEL

While there are multiple intended uses for the Mastery Model, specific actions have already been taken to utilize the information borne out of this research effort. Specifically, as a first step in optimizing and standardizing instructor performance, the KPAs have been adopted by TECOM and integrated into NAVMC 3500.37C, the Train the Trainer Training and Readiness (T&R) manual. Five of the 10 KPAs are included as instructor T&R events and the remaining five, as instructor learning outcomes. Formalization of the KPAs in T&R policy means they represent the performance goals against which to develop instructors.

Additionally, the Mastery Model has utility for supporting train-the-trainer activities in a number of ways. The profiles and performance indicators depict the nature of an individual's performance and challenges at each stage of development in a rich and nuanced manner not found in competency models. Formal train-the-trainer courses can be designed to target learner knowledge and experience gaps without exceeding their current capacity to learn. Similarly, the stage-specific performance descriptions can assist with observations to diagnose individual strengths and development needs across the distinct KPAs, in service of tailoring Staff and Faculty Development Plans to individuals' unique challenges. For example, a mentoring instructor could use the model to both assess a new instructor's current skills and then help define concrete behavioral goals for that instructor to achieve in order to progress toward mastery.

CONCLUSIONS AND NEXT STEPS

The primary goal of this research effort was to create a model of instructor development, unique to the needs of the Marine Corps, in order to define performance and representative behaviors of instructors at each stage of development. Through extensive review of best practices in the literature, a general methodology of model development was applied to this specific population involving interviews, thematic analysis, identification of performance indicators, and consolidation. The result of this work produced a Marine Corps-specific Instructor Mastery Model that codifies the qualities and performance indicators of the best USMC instructors. It provides a

roadmap for guiding the selection and development of instructors. In doing so, it supports the generation of developmental activities from a common framework and the creation of associated feedback tools and processes for tracking progress. Ultimately, the goal of the model is to provide objective goals and measures to ensure the best and most efficient use of resources across the force, in order to maximize instructor performance within relatively short periods of service.

To support the formal schools in their instructor development responsibilities, the next research step is to create an Instructor Assessment Battery that can be used to assess individuals along each of the T&R events and learning outcomes (i.e., the KPAs). Without an assessment capability, the schools cannot provide evidence that they are adhering to the T&R standards. The Instructor Assessment Battery is currently under development as part of the MInD research project that produced the model. Specifically, the Mastery Model serves as the orienting structure for the creation of a battery of observation, self-report, and performance tests that will both inform progress to-date as well as future performance goals and expectations. It is anticipated that this process will allow for clearer communication between trainers, mentors, and developing instructors and will increase the efficiency of the testing process, interventions, and mastery development.

Summarily, the Instructor Mastery Model provides access to the insights of experienced practitioners for leaders and instructors across the training and education community to understand instructor performance demands and requirements for success. This developmental model goes beyond existing instructor competency models to focus specifically on Marine instructor performance demands and detail the steps along the route toward mastery. As such, it supports the generation of developmental and assessment activities intended to accelerate instructor skill development and optimize the short three years individuals typically spend in the instructor billet. It is intended as a foundational knowledge product to assist the training and education community in setting the conditions and marshaling the resources to produce consistently higher levels of performance across the formal schools.

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