

ORGANIZATIONAL ASSESSMENT

A Different Kind of Gap Year: Program Development and Assessment at the United States Service Academy Preparatory Schools

Melanie Wong Dodge, United States Military Academy
Preparatory School

James M. Dobbs, United States Air Force Academy Preparatory School

Carl Crockett, United States Naval Academy Preparatory School

Taylor Paige Winfield, Princeton University

ABSTRACT

Higher education faces a myriad of challenges today. From decreasing college readiness to the drive among leaders to increase diversity and address inequities in graduation rates, colleges face impediments to recruit, retain, and graduate high-potential student bodies. In this milieu, the service academies have long provided an alternate route for select candidates to gain admission to and graduate from their institutions. This article briefly explains the purpose of the service academy preparatory schools and how each academy's preparatory school uses assessment to evaluate, and inform improvements in, their academic programs which are nested within overarching leader and character development programs. The approach is that tri-level assessment outcomes evolve from intentional, theory-driven, systemic, integrated thinking and planning. Each preparatory school highlights a different level of assessment: student level (micro) at the United States Air Force Academy Preparatory School; program level (meso) at the Naval Academy Preparatory School; and organizational level (macro) at the United States Military Academy Preparatory School. The authors also suggest future assessment possibilities and generalizability to other contexts for those working to close the readiness gap and addressing some of the most pressing issues facing higher education today.

The United States service academy preparatory schools serve to prepare high quality candidates for admission to, and graduation from, the service academies. The summer basic training and ten-month rigorous academic, military, physical, and character programs of the preparatory schools provide, in essence, a very different kind of gap year. This paper introduces the context in which the preparatory schools operate, provides an overview of their academic program offerings, and details their multi-level assessment protocols. The schools take a tri-level approach to assessment, focusing on the student level (micro), the program level (meso), and the organizational levels (macro). The paper will showcase each level of assessment through a description of the process at one of the three preparatory schools.

Context

Higher education faces a multitude of interrelated challenges today. From decreasing college readiness of high school seniors to the drive among administrators and policymakers to increase diversity and address inequities in graduation rates, and from the rise in tuition costs and student indebtedness to the admissions scandals, colleges are faced with unprecedented impediments to recruit, retain, and graduate a diverse, high potential student body. Indeed, an American College Testing (ACT) (2018) report on the performance of high school graduates revealed that “thirty-five percent of 2018 graduates met none of the ACT College Readiness benchmarks, up from 31% in 2014 and 33% last year.” According to the ACT, readiness levels in math and English declined since 2014 and average composite scores for all racial/ethnic groups, except for those of Asian descent, have similarly decreased (2018). The National Center for Education Statistics report (NCES; 2018) showed that in fall 2010, only 60% of undergraduates (first-time and full-time undergraduates) seeking bachelor degrees at four-year institutions had graduated after six years. When controlling for gender, the graduation rate for women was 63% and 57% for men (NCES, 2018); when controlling for racial and ethnic groups, the graduation rates ranged from a high of 74% for Asian students to a low of 40% for African American/Black students (NCES, 2019). With the average cost of college continuing to rise¹, taking more than four years to complete a four-year degree (or worse, not graduating at all), and with the potential of un- or under-employment, can be economically crushing to students, their families, and even the nation in the event of student loan default. Moreover, a recent investigation revealed that wealthy individuals

¹ Today, the average tuition and fees for a private college is \$35, 676, with many charging \$50,000 and above (Powell, 2018).

Melanie Wong Dodge, M.B.A., is the Dean of Academics at the United States Military Academy Preparatory School in West Point, NY. She is an Ed.D. candidate at Teachers College, Columbia University in adult learning and leadership. She has a Master of Business Administration in International Management from the Monterey Institute of International Studies. Her dissertation is on leading and enacting change in higher education and her research interests include adult learning and development, diversity and inclusion, and complexity leadership. She has taught courses in advertising, marketing, strategic management, human resources, psychology, student development, and organizational behavior.

James M. Dobbs, Ph.D., Lieutenant Colonel, U.S. Air Force, is the Dean of Academics at the United States Air Force Academy Preparatory School in Colorado Springs, CO. He holds a Ph.D. from the University of San Diego in leadership studies and a Master in Arts degree in counseling and human services from the University of Colorado, Colorado Springs. His research and writing addresses leadership development and self-awareness, cynicism, and systems thinking. He teaches courses in leadership, ethics, and organizational theory and behavior.

were bribing their children's way into elite colleges. Sadly, Jack Stripling (2019) posited that the admissions-bribery scandal confirmed "the game is rigged" to an already disillusioned populace.

Within this milieu, America's service academies, the United States Military Academy (USMA), United States Naval Academy (USNA), and United States Air Force Academy (USAFA) face similar and distinct challenges. While indebtedness is not necessarily a student concern, as all students at the academies receive full scholarships to cover tuition and room and board, earn small stipends, and have guaranteed future employment, the academies compete with peer institutions to identify and recruit high potential, diverse candidates. One way the Department of Defense is recruiting and preparing students that represent the Nation is through an investment each year of tens of millions for taxpayer dollars to operate three preparatory schools. The schools are the United States Military Academy Preparatory School (USMAPS), the United States Naval Academy Preparatory School (NAPS), and United States Air Force Academy Preparatory School (USAFAPS). These preparatory schools provide an alternate route for select students to earn admission to the service academies².

² NAPS also sends graduates to the United States Coast Guard Academy.

Each year, the service academies' admission committees select approximately 250 applicants who show high potential but are not yet qualified for direct admission and offer them a place at their respective preparatory school.³ All preparatory schools have similar guidelines for admission. Candidates can not apply directly to the preparatory schools. Rather, all applicants must first apply to the parent service academy, and the admissions board will determine, based on internal algorithms and the needs of the respective services and academies, who to send to the preparatory school. The preparatory schools' student bodies are comprised of four major categories: prior-enlisted service members (referred to as priors), under-represented groups, females, and recruited athletes between the ages of seventeen and twenty-two. Some candidates fall into multiple categories.

Depending on the academic year, between 20 to 30% of incoming candidates are priors reporting from Active Duty, Reserves, or National Guard units. Their time in service ranges from recent completion of basic training to five years of active duty, and career specialties span

³ Preparatory students are called cadet candidates at the United States Military Academy Preparatory School (USMAPS) and the United States Air Force Academy Preparatory School (USAFAPS), and midshipman candidates at the Naval Academy Preparatory School (NAPS). In this paper, they will be referred to as candidates or students.

Carl Crockett, Ph.D., Lt Col, USAF (ret), is the Academic Dean of the United States Naval Academy Preparatory School in Newport, RI. He holds a Ph.D. in Mathematics from the Air Force Institute of Technology and a Master of Science in Mathematics from Utah State University. He taught at the United States Air Force Academy for 10 years and earned the academic rank of Professor. He is interested in the role of non-academic life factors that influence academic performance.

Taylor Paige Winfield is a Ph.D. candidate in sociology at Princeton University in Princeton, NJ. She holds a Master of Arts degree in sociology from Princeton University and Bachelors of Arts from Stanford University in sociology, with a minor in anthropology. Her research investigates the (re)socialization of civilians into soldiers. She pays particular attention to how experiences vary along ethnic, gender, socioeconomic, and religious lines. She has spent the past two years conducting an ethnography at the United States Military Academy Preparatory School—participating in all aspects of cadet candidate life—and has conducted over 100 interviews. Her research is supported by the National Science Foundation and the Wenner-Gren Foundation.

from combat arms to support. Priors are recommended for admission by their military supervisors in the field and are selected based upon both officership potential and their ability to benefit from a service academy education. Priors are instrumental in assisting their classmates learn the basics of military life, e.g., teaching them how to properly wear the uniforms, conform to proper room standards, and adopt military customs and courtesies. They also make up the majority of the first term candidate chain of command, helping the unit transition to peer leadership. There is a large range of academic performance amongst the priors.

Under-represented candidates are essential for broadening the range of perspectives and background experiences of candidates. Thus, they play a vital role in enhancing the diversity of the academies and the future officer corps. Currently, all three preparatory schools are majority minority institutions. In the 2018-2019 academic year, 56% of the incoming USMAPS population was non-white, and 41% identified as black. At USAFAPS, 53%, and at NAPs, 61%, were of minority status. Although there are several under-represented candidates from extremely low- or high-income families, most are middle class. Under-represented candidates are drawn from applicants that show high academic and/or military leadership potential. For instance, some received high grades in high school but did receive direct admission due to low entrance exam scores (e.g., ACT or SAT), or because the academies do not consider their previous school to have provided a sufficient academic foundation. There are also candidates who do not pass the candidate fitness assessment or meet height and weight standards. The prevalence of obesity in America⁴ presents a significant additional challenge to a military institution tasked with identifying and recruiting high potential future military leaders.

Approximately 20 to 30% of preparatory candidates are female. The demographics of the female candidates

mirror those of the larger service academies. The female cohort is made up of prior enlisted service members, under-represented candidates, and recruited athletes. They serve in all levels of candidate leadership positions and are scattered along academic rankings.

Finally, athletic candidates are recruited to the academies to play several sports, including football, basketball, wrestling, lacrosse, and track, and make up approximately 40% of the preparatory school populations. Most recruited athletes are male, but there are a number of female recruits each year. Recruited athlete demographics range between sports, yet each team reflects a diversity of socioeconomic experiences. Although there are some athletes who choose to come to the preparatory schools because it will allow them to compete in their sport at the National Collegiate Athletic Association (NCAA) Division 1 level at their respective academies, some have always wanted to serve in the military and to have the opportunity play at academies gives them a possibility at the officer track. Recruited athletes inspire peers to develop physical and mental toughness and a winning spirit.

Preparatory School Programs

These high potential target populations have much to offer the academies and future officer corps. The preparatory schools offer holistic programs tailored to meet the needs of these candidates so they may succeed in the rigorous programs at their respective academies. USMAPS's mission is to motivate, prepare, and evaluate selected candidates in an academic, military, moral, and physical environment to perform successfully at USMA. NAPs aims to enhance midshipman candidates' moral, mental, and physical foundations to prepare them for success at the USNA. USAFAPS works to prepare, motivate, and evaluate for admission to and success at the USAFA. Unlike peer institutions that may offer short-term, summer pre-orientation programs or first-year seminars, the three preparatory schools offer a form of basic training in the summer to begin a ten-month, integrated academic, military, physical, and character

⁴ The obesity rate in youth 12 to 19 years in the U.S. is 20.6% overall (Hales, Carroll, Fryar, & Ogden, 2017).

development program. The military programs consist of both classroom and experiential learning through assigned leadership roles, classes, and field training. The physical programs include both physical education courses and competitive or intramural athletic programs. Character development is embedded in all three programs but also includes singular honor and respect programs.

At each preparatory school, the primary emphasis is on academic preparation to reduce academic risk for high potential candidates as evidenced by the amount of time allocated to developing the candidates' intellectual capacity in a given duty day (i.e., about seven to nine hours). Nonetheless, as Theodore Roosevelt said, "to educate a man in mind and not in morals is to educate a menace to society." Therefore, character development is embedded into each academic program, as is leader

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development. Where applicable, elements of character and leader development in the academic programs are highlighted. In any event, in all academic programs, candidates are taught how larger questions of honor and integrity translate into the classroom. Students learn how to properly cite not only works referenced but also help received from other students on their assignments. Students who fail to properly cite may be found in violation of the honor code and enrolled in an honor program. For instance, at USMAPS, the Honor Mentorship Program pairs a candidate with mentor, who is an academic, physical, or military instructor, and they meet one-on-one several times to discuss honorable behavior and the potential consequences of dishonorable actions in a military context. Moreover, if a candidate sees another student cheating or lying, they are required to directly confront the person about the improper behavior, and if necessary, report the incident.

Candidates often struggle with the concept of non-tolerance; however, the academic and military staff emphasize that confronting even minor honor violations now will ensure that their peers do not make similar mistakes at the Academy, or even more importantly, when lives are on the line. Learning to address minor as well as egregious concerns help develop habits of mind consistent with becoming a leader of character. Finally, candidates are also encouraged to practice leadership in the classroom, by actively participating in discussions and helping struggling peers out of class.

The academic years at USMAPS and USAFAPS are designed on a quarter system while NAPS is on a trimester system. Classes last seventy-five minutes, and students take three (USMAPS and USAFAPS) or four (NAPS) courses a day. Instructors or peer tutors are available to support the students during morning, afternoon, evening, and weekend study periods. Each day after lunch all three schools offer additional instruction time, during which all faculty are available to meet with students. Within the candidate battalion, there are also academic officers who tutor their peers. A common sentiment is that if one candidate is struggling academically, the whole unit is responsible for making sure they succeed. Developing a sense of shared responsibility further develops candidates' leadership practice that prep school graduates will carry on to their respective academies.

All three preparatory schools provide courses in English, mathematics, and science. Course types and number of faculty available to teach the courses at the preparatory schools are reflective of larger trends within their respective service academies. The courses are coordinated with the service academies' academic programs and objectives, i.e., to become confident problem-solvers and communicate effectively, to ensure that students have the tools and background knowledge necessary to excel upon admission and become competent leaders. Within the first few weeks

on campus, students are given initial diagnostic tests. The academic departments use these tests, along with high school transcripts, to place cadet candidates into courses. An opportunity to learn to handle a demanding course load is part of the program, and placement in the various levels is managed to ensure all students are challenged. For instance, learning to balance competing demands is essential to college readiness at the academies so candidates are exposed to increasing workloads across all four pillars (academic, military, physical, and character). Moreover, for a few candidates at USMAPS and USAFAPS who test high, special arrangements are made for them to take advanced courses at USMA and USAFA, an advantage of being co-located with a parent academy.

The Mathematics Departments at the preparatory schools provide students with a strong foundation in pre-calculus, and, for advanced students, in calculus. USMAPS has nine math faculty, NAPS has 11, and USAFAPS has 12. The schools offer three tracks in mathematics. For example, NAPS's offers: Foundation (review and coverage of a complete pre-calculus curriculum), Intermediate (review of precalculus followed by content normally associated with first semester differential calculus), and Advanced (quick review of pre-calculus, traditional first semester of calculus and a substantial introduction to typical second semester calculus). Student performance is monitored closely in all courses, and adjustments to placement in math start halfway through the first quarter. Candidates may move down if needed, but only if they put in effort and are still unsuccessful. USAFA and USMAPS provide additional tutoring from volunteers while NAPS has a professor that serves as a tutor for students.

The curriculum at USAFAPS uncouples the topics of college algebra and trigonometry, with these being taught simultaneously in separate courses. Students are enrolled in one level-appropriate algebra course, which includes three quarters of college algebra, and one quarter of basic algebra skills for students needing

the additional remediation. They are also enrolled in a level-appropriate trigonometry course, which includes two quarters of trigonometry, one or two quarters depending on skills track of introduction to differential calculus, and one quarter of introduction to statics, a branch of mechanics.

The English programs at the preparatory schools emphasize the writing process and disciplined composition. USMAPS and USAFAPS have eight English faculty and NAPS has nine (one focuses on tutoring). In USMAPS English, there is an additional focus on close reading of sophisticated texts, grammar, and oral communication. USAFAPS enrolls the bottom 30% of scorers on their diagnostic exam in a one quarter, co-requisite course in reading and study skills, which emphasizes comprehension, vocabulary, and reading rate. At the end of this course students retake a version of the initial diagnostic exam, to assess and demonstrate their progress.

The English curricula cultivate character and leadership development through the facilitation of difficult conversations on the human condition. Teachers encourage candidates to respectfully share their opinions on reading material and sometimes this translates into conversations about current events or hot topics. Given the diverse backgrounds of candidates, these conversations often become heated and are an opportunity for cross-cultural dialogue. Ideally, these conversations will help candidates empathize with alternative perspectives (advancing students' developmental level), and thus, relate better to classmates of dissimilar backgrounds. Classrooms are a laboratory for creating a moral-ethical environment that faculty and staff hope the candidates will create in their future units.

The science curricula at the preparatory schools vary in terms of subject and quantity. USMAPS has four science faculty, USAFAPS has seven, and NAPS has nineteen (three focus on tutoring). Science is a

relatively new addition at USMAPS, based on earlier assessed needs of increased academic load, and is divided into three courses: biology (one quarter), chemistry (two quarters), and physics (one quarter). The emphasis in the science curriculum is on learning to think scientifically and working in self-managed teams using a teaching strategy called Process Oriented

Guided Inquiry Learning (POGIL) (Moog, 2014). POGIL is consistent with the Next Generation Science Standards' three dimensions of science learning (NGSS Lead States, 2013) and key outcomes of the West Point Leader Development System (Judd et al., 2018). At USAFAPS, the Science Department uses chemistry as the primary vehicle in developing scientific literacy, problem solving, and critical thinking skills. Physics is offered to approximately one-fourth of the class, enrolling high-performing students who have demonstrated exceptional performance across the curriculum relative to their class, especially in algebra. NAPS provides in-depth chemistry and physics training at three levels, Foundation (pre-AP level), Intermediate (includes AP-level and above), and Advanced (college-level).

USMAPS and USAFAPS offer an additional fourth course. USMAPS provides a year-long student development course, which teaches basic study skills, time management, information literacy, and social and psychological perspectives on learning and adult development. The four teachers of the course additionally serve as academic counselors for the candidates. To address the wide range of academic and non-academic (social and personal) background characteristics and experiences of its candidates, USAFAPS implemented a First Year Experience course as a primary strategy to increase academic performance, student retention, and ownership, with the ultimate goal to create a pathway of success as they transition to USAFA. NAPS does not have an additional course, but there are two full-time study skills specialists who provide workshops on study skills topics and individual

study skills. Intentional development of basic skills such as reading, time management, self-discipline, attention span, and study strategies, receive attention across the academic curriculum.

Each preparatory school has a program designed to ensure struggling students are receiving the extra help they need. At USAFAPS, students with a term and/or cumulative GPA below 2.5, or a C- or less in any academic course, are placed on the Academic Probation Program. Students with deficient grades will be assigned a number of Quality Academic Sessions (QAS) based on the following formula: (# of Cs) x 2 + (# of Ds) x 3 + (# of Fs) x 4 + (if GPA < 2.5 then add 4) = total # of QASs. Through collaboration with USAFAPS, USMAPS developed a similar program, called the Academic Improvement Program (AIP), for students with C- or below at midterm or final, or GPA of 2.0 or below at the first quarter, 2.25 at the second quarter, and 2.5 at the third quarter. At NAPS, students are on Academic Probation if their GPA drops below 2.2 or they earn an F at any mid-term or marking period. Students are assigned mandatory extra instruction (EI) of 60 minutes per week for a D or 90 minutes per week for an F. The EI is tracked and used as a metric.

Academic Assessment in U.S. Service Academy Preparatory Schools

In continuous efforts to increase institutional effectiveness, the three schools hold annual Joint Prep School Conferences. At a recent conference (March, 2019), the schools reviewed their mission statements to ensure ongoing clarity of purpose, discussed common to opportunities and threats, and shared best practices. One outcome of this recent convening is this article: situating the three prep schools within a shared understanding of their *raison d'être*, summarizing the assessment strategies informing the three academic programs, and extracting lessons and practices across the preparatory schools that have value for the field of higher education.

An integrative evaluation framework for the preparatory schools at the Department of Defense level does not exist (Stewart, 2003); thus, the schools have developed their own evaluation programs using both quantitative evidence along with participatory, qualitative methods to inform external and internal stakeholders. Each

preparatory school uses an integrated approach to evaluate their programs. Integrated evaluations serve two

objectives: first, to provide credible evaluative evidence, and second, to be useful to stakeholders' requirements (Chen, 2014). The following sections depict how each school uses assessment to evaluate, and inform improvements in, their academic programs. To show the three levels in which assessment occurs, each section will highlight a different level of assessment: student level at USAFAPS (micro), program level at NAPS (meso), and organizational level at USMAPS (macro). USAFAPS's approach to individual assessment is intentional about helping students become more active and responsible holistic learners.

United States Air Force Academy Preparatory School: Student Assessment

Using Downing's (2018) "Eight Core Principles" from the *On Course* curriculum (accepting personal responsibility, self-motivation, self-management, interdependence, self-awareness, lifelong learning, emotional intelligence, and belief in self), USAFAPS's focus is on modifying personal habits; such as heightening sense of self-responsibility, management, and improving interpersonal skills, including increasing students' awareness of others' emotions and perspectives. To foster student development of these skills, the academic curriculum employs several different active and collaborative teaching strategies, such as interactive small groups and dynamic student-led demonstrations. These assignments are offered

alongside more traditional course work, such as reading and writing assignments, graded exams, and formal class projects, which are intended to improve students' academic skills. Additionally, by guiding students to adopt these principles and tools, USAFAPS strives to empower them to not only become more effective

USAFAPS's approach to individual assessment is intentional about helping students become more active and responsible holistic learners.

partners in their own education at the preparatory school, but also in their journey to become leaders of character in life.

To track student progress, individual assessment begins with diagnostic testing in math, science, and English at the beginning of each academic year. These assessments provide a baseline evaluation of students' incoming abilities. The assessments are re-administered at the end of year to provide a measure of skill growth in the respective areas and level of preparedness for the Academy. What follows details how individual assessment takes place in each course.

In mathematics courses, approximately 75% of a course grade is based on individual, closed-book assessments such as quizzes or graded reviews (GRs). The remaining 25% comes from assignments such as homework exercises or projects where outside assistance (e.g., working with classmates, online resources, etc.) is authorized. For homework assignments, all college algebra and trigonometry courses employ a mix of written exercises from the textbook along with online work. This blend permits instructors to see and evaluate student work and provide feedback, while also providing students a 24/7 resource with unlimited tutorial and instructional assistance. Quizzes cover topics from two or three sections of a textbook chapter, while GRs are generally equivalent to a chapter test. GRs test both skill

and concept understanding; concepts are tested through multiple choice, true-false or short answer questions, while skills and applications are evaluated by way of more traditional work-out problems. Comprehensive final exams each quarter cover all the topics of that course for the quarter. In addition to correct solutions, grading rubrics emphasize process, correct application of algebra and mathematical properties, logical work and presentation of that work, rounding, units, and notation.

Approximately 70% of a student's grade in the science department is based on formal assessments that measure their individual performance abilities. These assessments consist of GRs given approximately every three weeks, as well as a series of short quizzes given at the beginning of each chemistry lesson. GRs cover one unit of study and are deliberately timed to test only concepts that closely relate to one "big idea" in the curriculum (e.g., atomic structure, chemical nomenclature, harmonic motion, etc.). GRs consist of between 15 to 20 multiple choice questions that comprise half of the score, while the other half consists of between four and six workout-type problems. Students are not permitted to re-take GRs or make any corrections once submitted. The short, daily quizzes consist of three to four questions that require students to demonstrate a skill learned in the previous lesson, as well as their base knowledge related to the next lesson's primary learning objectives. These quizzes require students to prepare in advance for each lesson, by reading the assigned material and engaging with new vocabulary terms and mathematical formulas. The remaining 30% of a student's grade is based on formative assessments that allow regular feedback, collaboration, and revision. These assignments include laboratory reports, in-class worksheets, and online problem sets. Laboratory reports and in-class worksheets allow only one submission, but students are permitted to collaborate with classmates, provided they thoroughly document all help received. Online problem sets allow unlimited submissions and collaboration, and students are encouraged to

complete them multiple times to achieve the maximum score. This encourages repeated practice facilitating concept mastery.

Each quarter in English, students complete two to three major writing assignments, accounting for roughly 40% of their final course grades. Each course also features a few "process-based" assignments leading up to each essay's completion. These assignments range in form and complexity—from worksheets and "practice" thesis statements to full and ostensibly "final" drafts—and are typically graded for completion and effort. More importantly, however, they offer instructors an occasion for assessment, as instructors are able to intervene within a student's writing process and offer them formative feedback as they write, rather than withholding feedback until the essay's completion, and thus conflating forward looking feedback with the work's formal evaluation. In making this distinction between "forward-looking" and "evaluative" feedback instructors follow the latest research in writing instruction, most notably the emphasis therein to provide both formative and summative means of assessment.

The English Department assesses student writing in five key areas: rhetorical situation (writing with a sense of task, audience and purpose), content (depth and originality of insight), organization (on the essay, paragraph, and sentence level), style, and mechanics. Each major assignment features a specific rubric defining each area for the particular task at hand and characterizing different performance levels for the same. Students receive these rubrics at the beginning of the course, and instructors use them to evaluate final essays for a grade. At the beginning of each course students are also assigned a baseline diagnostic essay, which mirrors in miniature the final major writing assignment of the quarter. This assignment is graded only for completion, as the faculty have not yet taught the students about expectations for essays. Apart from the grade, instructors score these essays in each area on the assignment rubric,

assigning number values: 5=*Exceptional*; 4=*Above Average*; 3=*Average*; 2=*Needs Work*; 1=*Insufficient*. Instructors then score the student's final assignment similarly, and the faculty uses these results both to assess student improvement and to review and refine USAFAPS's instructional approach.

Detailed and consistent assessment in each course allows USAFAPS to track student progress over the year, evaluate progress between years, and determine how performance at USAFAPS is correlated with performance at USAFA. USMAPS and NAPS perform similar styles of assessments at the individual level: from pre- and post-testing, to learning the value of formative assessment prior to summative assessment, and to correlating performance at the preparatory schools to the academies.

United States Naval Academy Preparatory School: Program Assessment

NAPS's academic mission is twofold: first, to provide an intense, school-year program to develop thoughtful and diligent students; and second, to increase students' college readiness by adding one year's content knowledge in math, chemistry, English, physics, and enhanced learning and study skills. In order to track overall success of the academic program, NAPS collects longitudinal data on student performance at the preparatory school and corresponding performance at USNA. The dean monitors year-to-year stability of the performance: (1) tracking values of incoming SAT scores (rough indicator of average student academic strength); (2) pre- and post-tests in math, chemistry, and physics; (3) percentage of students qualified to enter calculus at the beginning and at the end of the year; (4) section sizes in each discipline; (5) percentage of students earning an appointment to their respective Academy; (6) NAPS GPA compared to subsequent first year GPA at USNA; (7) average USNA grades in calculus, chemistry, English, and physics compared to non-NAPS students; and (8) the graduation rate at USNA four years after NAPS completion. These data

are reported annually to the Academy Effectiveness Board. Due to these data, NAPS has increased the number of instructors to reduce section sizes, reduced attention to SAT/ACT preparation and testing during the school year, and refined their predictions of success rates for their graduating classes. Data have shown that grades earned in the NAPS program correlate strongly with first year grades at USNA.

To support continuous improvement of the academic department, NAPS monitors the number of students using out-of-class tutoring and the length of sessions by subject, success at USNA by GPA window at NAPS, student feedback on performance of instructors, and the delay time from awareness-of-need to formal-assistance-provided for emotional concerns. In recent years, NAPS has become more sensitive to the academic impact of non-academic factors including social skills, emotional stability, moral foundation, cultural sensitivity, and overall maturity. NAPS is taking a serious look at larger national trends of increasing suicide rates, increasing quantities and severity of social and emotional challenges, the reality of stress related to economic diversity, disillusion from corruption in many businesses, colleges, and some aspects of government⁵, and the widely varying needs at their homes that NAPS students "carry as baggage." While varied non-academic needs of the evolving student population are not easily addressed or assessed, faculty have become much more aware of the variety and comprehensive nature of requirements to prepare students for college, and the divergent points from which students may begin their journeys at the preparatory school. As a result, NAPS is now working to develop programs and assessments to track the emotional support and development of its candidates. In the meantime, counseling is available outside any reporting chain.

⁵ According to a 2018 survey, 80% of Americans have confidence that the military will act in the public interest, a number far exceeding that of other significant institutions, including business leaders, (45%), elected officials (25%), and the media (40%) (Johnson, 2018).

Evaluations of low academic performers is very thorough at NAPS. Information collected from evaluations not only guides immediate feedback sessions with the students and provides key stakeholders time to intervene on their behalf, but it also can inform the faculty and staff of strategies to work with low-performers in the future and report progress to the Academy. Individual subject areas track performance on exams (including statistics on individual questions) and conduct thorough reviews of any exam with particularly low performance. At each marking period and mid-term, complete grade histories are combined with individual comments from each applicable academic instructor, athletic coach, and military supervisor. Faculty tutors comment on those for whom they have meaningful input. Students also provide a written self-evaluation. Each marking period, faculty also provide—for each of their students—an estimate of the student's overall academic work ethic using scores from one to nine. Information about student performance is shared with key stakeholders, such as instructors, coaches, and admissions, throughout the year so they can reach out to students who are struggling and help avoid surprises at the end of the year when it is too late to intervene. Students who NAPS considers to be at-risk have personal meetings with a team consisting of the Dean, four supervisors of academic departments, their coach (if applicable), and their military leader. Before the Academy makes decisions on offering appointments to the students, NAPS briefs the above information to the Admissions Board.

Program level assessment ensures that the academic department at NAPS continues to improve and meet the evolving needs of candidates. The process allows for integrated evaluations, in which findings inform decision making about program development and evolution. Likewise, assessments at USMAPS resulted in the formation of a science department and reduced attention to standardized tests. USMAPS and USAFAPS also hold academic interventions for at risk-students and periodic sensing sessions to foster

open communication between the candidates, faculty, and staff.

United States Military Academy Preparatory School: Organizational Assessment

USMAPS's institutional effectiveness depends on continuous development of its organizational capacity for theory-driven and integrated evaluation. Theory-driven evaluation is different from the traditional, method-driven approach in that program theory answers more than the question of whether a program works, but significantly, how and why (Chen, 2015). For instance, if an early-stage program is not initially successful, there could be a myriad of reasons why and good programs could be cut prematurely. By explicitly hypothesizing the inputs, processes, outputs, and outcomes in a logic model, faculty may better assess where improvement is needed, i.e., in addressing input variables like incoming risk levels of the students, or in program components such as curriculum changes or faculty development. Indeed, understanding the context of the program(s) makes it easier to interpret and utilize the results of an evaluation.

A primary step of assessment is articulating top level objectives. Once the institutional objectives of USMAPS were defined, the goals and sub-goals of the USMAPS academic program were developed. The overarching academic goal is to inspire, educate, and develop a diverse group of candidates for the academic challenges of USMA. To meet this goal, faculty and staff seek to: (1) inspire candidates to embrace the values of academia, especially academic integrity; (2) develop in candidates the intellectual capacities necessary for academic and professional success; and (3) teach the candidates the disciplinary skills and knowledge necessary for college-readiness. These objectives illustrate how the academic program nests cohesively with USMAPS broader leader and character development program.

Further nested within these three sub-goals, and aligned with their parent departments at USMA, are the academic outcomes of each discipline. These include each discipline's primary way of knowing and key practices, core conceptual ideas, and essential leader skills such as problem-solving, communication, use of technology, and habits of mind. In USMAPS' Center for Enhanced Performance, which teaches the student development course, the developmental outcomes for candidates include: (1) assume ownership for their learning and development through strong student engagement; (2) develop an identity that promotes constructive growth and builds resilience to overcome adversity; (3) improve their information literacy skills and apply them to access, evaluate, integrate, and ethically use information to guide action; (4) set and monitor realistic and challenging goals to meet and exceed academic, military, and physical standards; and (5) understand and apply learning and developmental theories to become effective and ethical soldier-scholars and leaders of character. Together, all the academic outcomes combine to advance candidates intellectually and developmentally as competent leaders of character.

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Primarily, the academic program is informed by theories and concepts in adult learning and development. Learning and development are interdependent processes. To expedite the learning process for cadet candidates, faculty foster not only informational learning, or what to know, but also transformative learning, or how to know (Kegan, 2000). The latter is evident in USMAPS science pedagogy aforementioned. Moreover, USMAPS stays abreast of evidence-based concepts that promote deeper

learning (i.e., fostering student engagement, a growth mindset, and self-regulation skills). These are explicitly taught in the student development course. Robert Kegan's Constructive Developmental Theory informs USMAPS's approach to adult development (Kegan, 1995). As with most post-secondary institutions, candidates present at a transitional stage of development (Lewis, Forsythe, Sweeney, Bartone, & Bullis, 2005). Thus, the practices and curriculum are designed to help candidates appreciate the results of achieving a more independent stage of life while illuminating its limits. Faculty and staff then assist candidates to take on more responsibility for self and others as well as broader perspectives to progress them toward the next stage of development necessary to succeed at USMA.

USMAPS' evaluation program operates on continuing, collaborate cycles of inquiry throughout the year. The primary cycle begins the week after graduation, wherein the whole school takes a week for reflection and professional development together. In recent years, topics have included learning about and reflecting on USMA's new strategic plan, Kegan's Constructive

Developmental theory, West Point's Leader Development Program, and theory-driven program evaluation. Next, the academic department

conducts program evaluation to inform any curricular design needs. The design phase then is followed by the development phase in conjunction with individual professional development opportunities. In mid-August, the delivery phase begins anew. Other cycles of inquiry take place throughout the year such as gathering data from USMA on USMAPS graduates and analyzing grades; eliciting feedback from students each quarter; and planning, executing, and appraising faculty development and performance.

A specific example of this process of inquiry took place in May 2018, when USMAPS conducted a school-wide professional development workshop, in part, to articulate the program theory⁶ for the cohesive program (academic, military, physical, and character). The workshop began by identifying the faculty and staffs' goals and the context, then constructing a hypothesized causal chain. First, the faculty clarified the institutional mission then identified inputs (the students; human, financial, technological and physical resources; processes and structures; and USMAPS's strategic relationships). Then the faculty broke down the desired outcomes into three categories: long term, intermediate, and short term. Long term outcomes included items such as USMAPS graduates: (1) successfully complete their first year; (2) lead the direct admits and civilian prep cadets through acculturation to USMA; (3) lead and live honorably; (4) demonstrate excellence in the academic, military, and physical pillars; (5) graduate from USMA; and (6) commission as a second lieutenant. To achieve these goals, the faculty worked backwards to identify intermediate outcomes such as candidates: (1) value academics; (2) become better critical thinkers and creative problem solvers; (3) successfully complete the 10-month experience; and (4) earn admission to USMA. Lastly, the faculty identified pre-requisites for the intermediate outcomes in the form of short-term outcomes such as candidates: (1) be coachable; (2) create and sustain constructive relationships; (3) improve help-seeking behaviors; (4) become more organized, and (5) use their planners to manage their time, to name a few.

Once the hypothesized "if, then, so what" causal statements were constructed, faculty took time to make their tacit assumptions about behavior change explicit. They shared their assumptions about how, why, and to what extent key factors (i.e., the context, students, pedagogy, faculty, program operation, and resources)

influence achievement of the desired outcomes. Some assumptions included

- Students have high potential but are not yet college-ready and lacking in some life skills;
- Diverse perspectives are valued;
- Relationships are important for learning and development;
- The faculty will be engaged in and out of the classroom;
- If faculty holds candidates accountable in and out of class, they will succeed to the next level;
- The institution will have the resources required need to accomplish the mission;

Capturing these assumptions helps faculty to test them and re-construct as necessary. The next step was to delineate core activities at the overarching academic level as well as within each department (English, mathematics, etc.). Once these activities were catalogued, existing micro and meso metrics were reviewed and new metrics were identified to measure the efficacy of each activity vis-à-vis the expected outcomes at the various levels of analysis.

Using a theory-driven, integrative approach to evaluation and assessment helps USMAPS, NAPS, and USAFAPS analyze findings more effectively and in real time. Utilizing a collaborative inquiry process, the faculty leverage sense-making and organizational learning to align their efforts into developmentally-challenging, evidence-based, and coherent programs. Although the previous descriptions focused on academic assessment, faculty and staff employ similar approaches to assess character and leadership development over the ten-month preparatory school experiences. With this framework, academic and developmental strategies have the potential to complement one another and provide leaders of character for the next generation of military officers.

⁶ Program theory consists of two components: theory of change and theory of action (Funnell & Rogers, 2011).

Conclusion

The preparatory schools' academic programs employ holistic approaches to curriculum design, development, delivery, and assessment. Assessment is approached through systematic thinking about the key challenges facing the students and institution, iterative planning, and application of theories on adult learning and development. The assessments are tri-level, focusing at the student level (micro), the program level (meso), and the organizational level (macro). At the student level, the assessment program focuses on developing the candidates' knowledge, skill, and abilities along with the intrapersonal competencies of self-awareness, self-regulation, self-motivation. At the program level, the focus is on curricula development and assessment, ensuring that academic programs are: (1) developmentally appropriate; (2) sufficiently challenging to prepare students for the service academies' curricula; (3) frequently and accurately assessed at micro and meso levels of analysis; and (4) adequately supported. Program level assessment also includes plans and resources for faculty development as well as meaningful extracurricular programming to enrich the learning. At the organizational level, the focus is on making sure the organizational structure; academic schedule; financial, human, physical, and technological resources; policies and procedures; and planning processes are effective for current operations and emerging growth opportunities. One emergent growth opportunity identified in the process of writing this paper is for the three preparatory schools to collaborate on further assessing and advancing their student development programs. Through constant and cyclical assessment, the preparatory schools can better meet the needs of the students, the service academies, and the nation, which desires an officer corps that is intellectually and morally sound and representative of the people it serves.

The preparatory schools provide one avenue to approach the contemporary challenges in higher education. By providing ten-months of intensive

academic and adult development experience, the preparatory schools can send high potential students to the service academies, whom would have otherwise not been qualified for admission. Through these efforts, hundreds of students each year from diverse socioeconomic, educational, and ethnic backgrounds enter these elite institutions and go on to successfully lead in the nation's military. Preparatory school graduates not only comprise leadership in the service academies and the military, but also later become leaders in the civilian world, particularly in politics and business. USMAPS, USAFAPS, and NAPS provide a model for other preparatory programs and universities that may be considering starting their own preparatory schools. The preparatory schools offer a different sort of "gap year," that has the potential to reduce larger societal gaps in educational outcomes.

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