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Welcome to the October 2021 edition of the *Journal of Military Learning* (JML). This edition of the JML includes a peer-reviewed manuscript from the Columbian Army, an article of interest from U.S. Army ROTC, and two best practices from the U.S. Coast Guard and U.S. Army War College. The topics cover trait development, student expectations and motivation, the influence of social factors, metacognitive reflection, and learning styles. This edition also premieres a new “Insights” category for an article that reviews one of the recommended conferences from our conference list. The featured conference in this edition is the iFEST: Learning and Thriving in the New Normal. The iFEST is a Department of Defense Advanced Distributed Learning and National Training and Simulation Association hosted event that focuses on learning technologies. I hope you enjoy this selection of articles and encourage all of our readers to submit manuscripts for consideration in a future edition.

The JML brings current adult-learning discussions and educational research from the military and civilian fields for continuous improvements in learning. Only through critical thinking and chal-



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lenging our education paradigms can we as a learning organization fully reexamine and assess opportunities to improve our military education. A detailed call for papers and manuscript submission guidelines can be found at <https://www.armyupress.army.mil/Journals/Journal-of-Military-Learning>. ☞

Student Motivation, Expectation and Engagement, and Views on Work-Life Balance in the Colombian Army

Time for a Change?

Pablo Delgado Valencia and Guillermo Gomez Rodriguez
Colombian Army

Elisabeth Duursma
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Abstract

Student expectations regarding their education influence attendance, motivation, and attrition. This applies to tertiary but also to military education. In this exploratory study, we examined the expectations and attitudes of 175 lieutenants enrolled in a course in the Colombian army. Results showed that students at the beginning of the course held significantly higher expectations than at the end of the course. Students who completed the course were specifically dissatisfied with the limited time they spent with their families due to the time-intense demands of the course. Implications of the study will be discussed.

People join the military for reasons which are often complex and motivated by several economic and psychological factors (Ginexi et al., 1994). These reasons include job or skill training, self-improvement, serving one's country, money for education, time out, or no other jobs or prospects available, and they are often a combination of factors (Ginexi et al., 1994). Moskos (1977) proposes a conceptual framework to describe individual motivations for joining the military, either institutional or occupational. When someone views military service as institutional, he or she considers how contextual and broad factors such as organizational norms, values, and

practices provide a personal sense of obligation, loyalty, and a sense of duty (Moskos, 1977). Challenges such as long working hours and intensive training are counterbalanced by a sense of individual commitment (Griffith, 2008; Moskos, 1977). Motivation to work and remain within the military organization is intrinsic. The other motivation to join the military is viewed as occupational or perceiving the military as one would a civilian job (Griffith, 2008; Moskos, 1977). People who hold an occupational view tend to see military service as work that has established tasks, times, and locations, and any work beyond regular hours or conduct tasks that require great effort are expected to be compensated (Griffith, 2008; Moskos, 1977). Incentives to work are extrinsic such as time-off bonuses, promotions, or a salary raise (Griffith, 2008).

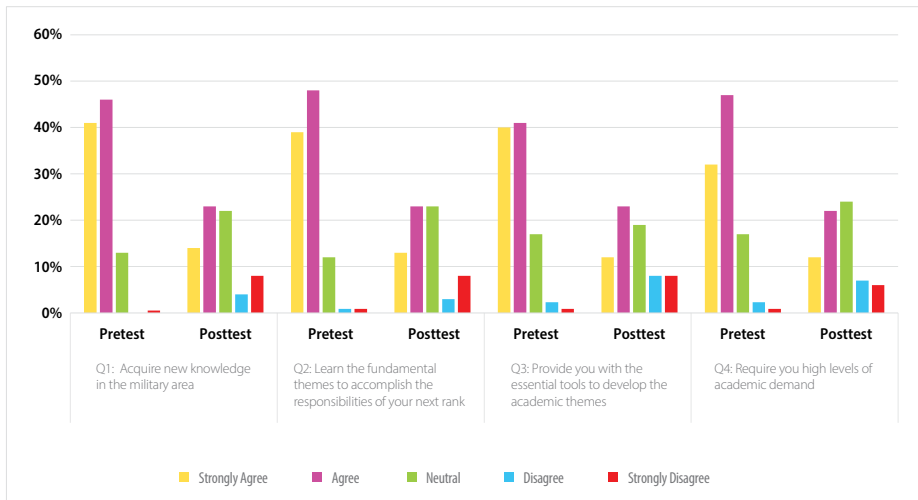
The military expects its members to demonstrate standards of loyalty, duty, respect, selfless service, integrity, honor, and personal courage in every aspect of their lives. This high standard requires that every soldier is self-motivated and can accomplish each task (Fall et al., 2011). Armed forces across the world, though, experience high attrition rates, sometimes more than 75%, despite rigorous screening (Gayton & Kehoe, 2015). The U.S. Army, for example, spends an estimated USD \$22,000 to recruit and screen an application (range of \$11,000–\$44,000) with another USD \$36,000 to train a soldier to his/her operational assignment (Niebuhr et al., 2013). At times, personality measures and intelligence scores have been used to help prevent attrition but these tend to have limited predictive value (Picano et al., 2006). Factors such as enjoying learning play a more significant role in predicting better military performance as a study conducted with Argentinean cadets showed that in their first year, cadets who performed at higher military levels showed higher ratings on the love of learning compared to cadets with lower levels of performance (Matthews, 2008). A study on the retention of cadets in the United States showed that persistent effort in pursuing one's

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Figure 1*Responses to Questions 1-4 Pre- and Posttest*

goals is a significant predictor of performance and retention (Maddi et al., 2012). In addition to the enjoyment of learning, and the persistent effort in one's own goals, another important factor for high performance in the army is motivation. It is important to assess soldiers' motivation to prevent high attrition rates and make sure that the best qualified and motivated personnel are employed in the army.

Expectations and Teaching Methods

Student expectations are known to determine factors such as satisfaction, attendance, performance, and attrition in a course, particularly at the tertiary education level (Lobo & Gurney, 2014). When students' expectations are met or fulfilled, this creates a productive learning environment, whereas unmet expectations have the opposite effect and can lead to low motivation, poor performance, and attrition (Bordia et al., 2008).

The expectations students hold regarding their education are shaped by many different factors, including previous educational experiences, interest in the subject matter, self-perception, and perception of the institution (e.g., Brinkworth et al., 2009; Byrne & Flood 2005; Crisp et al., 2009). Students can have different expectations about workload, using various interesting teaching methods, feedback from teachers, and having access to practical assistance (Brinkworth et al., 2009; Cooke et al., 2011; Perera et al., 2008).

These aforementioned findings can also be applied to students in the military. Ford et al. (2013) argue that those individuals who hold high expectations of military



Table 1*Mann-Whitney U Results for Statements 1-4*

Statements	<i>U</i>	<i>p value</i>
Statement 1: The intermediate course will enable you to acquire new knowledge in the military area	11327	.00
Statement 2: The intermediate course will enable you to learn the fundamental themes to accomplish the responsibilities of your next rank	11320	.00
Statement 3: The intermediate course will provide you with the essential tools to develop the academic themes	11406	.00
Statement 4: The intermediate course will require you high levels of academic demand	12182	.00

life are more likely to adjust well due to their own assessment of their abilities and interests, as research has shown that expectations about whether one fits with the job or organization based on their judgment tends to be reasonably accurate (Cable et al., 2000; Edwards, 2008; Ford et al., 2013).

Research into leadership training programs, which can be described as developing and enhancing competencies of leaders within a changing organization (Beheshtifar & Panah, 2012; DeRue et al., 2012; Ismail et al., 2017), such as the army, has shown that course content, instructors' role and trainees' motivation to learn are strongly interrelated (Ismail et al., 2017). Therefore, it is essential for a course to be well-designed, based on the job requirements, and to select the right instructors to teach and motivate their students (Ismail et al., 2017). One of the critical factors in student learning is having an instructor who cares about student learning (Finn et al., 2009). Teven (2001) argues that on the one hand, when students perceive their instructor to care about whether they learn, then students should also care and therefore become motivated to learn. On the other hand, any conflict and mistrust between teacher and student can have a negative effect on student learning (e.g., Hamre et al., 2008; Spilt et al., 2011).

The self-directed learning theory suggests that the willingness of someone to learn independently to fulfill specific needs and expectations might lead to the person performing positive actions benefiting others and/or him- or herself (Knowles, 1975; Kolb & Boyatzis, 1970). Knowles (1975) identifies three reasons for self-directed learning: (1) individuals who take the initiative in learning learn more and in superior ways than



Figure 2
Responses to Questions 5-11 Pretest

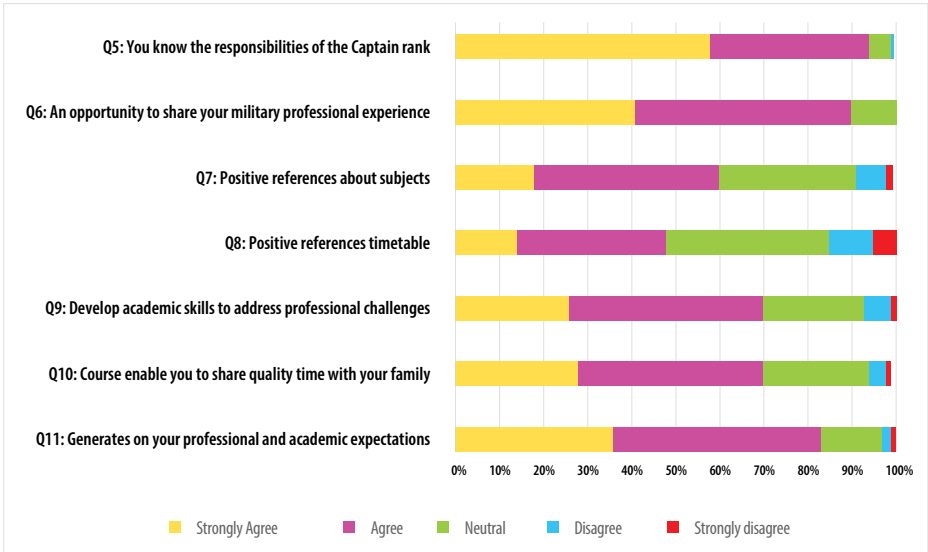
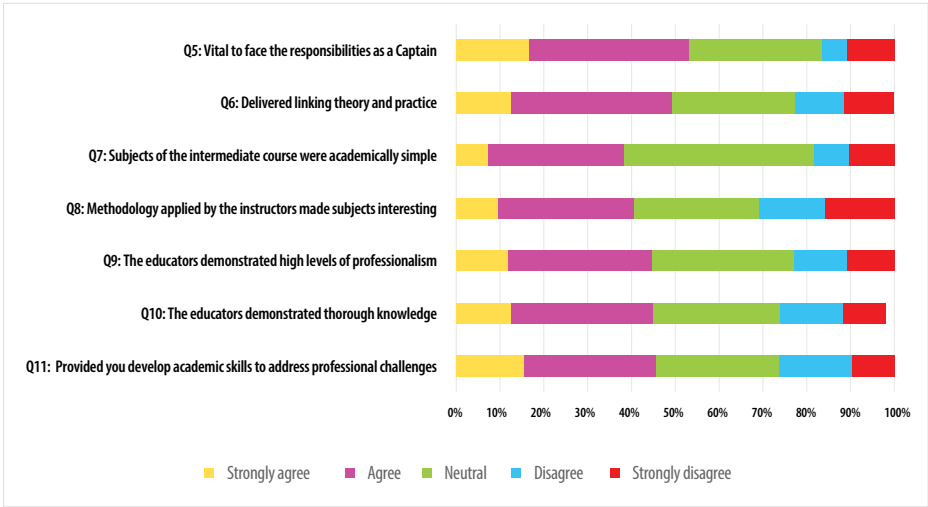


Figure 3
Responses to Questions 5-11 Posttest



those who sit and wait for the teachers, (2) self-directed learning is more in tune with our natural way of psychological development, and (3) many new developments in learning put a heavy responsibility on learners to take advantage of their own learning. Knowles (1975) argues the implications of those three reasons are the facts that (1) it



is no longer realistic to define the purpose of education as primarily transmitting what is known, (2) there should be somewhat different ways of thinking about learning, and (3) one can no longer equate education with youth (Knowles, 1975; Manning, 2007). In terms of adult learning, Confessore and Confessore (1992) explain that there might be situations where teacher-directed learning is the preferred method over self-directed learning. However, even in this instance, which is common in the army (e.g., Xu et al., 2013), Knowles (1975) argues that the learner is still responsible for his or her own learning and critical thinking. This applies even when students experience a “traditional” teacher-focused learning environment. Some scholars believe that students’ beliefs about their ability are most influential to their behaviors (Bandura, 1997; Graham & Williams 2009; Schunk & Pajares, 2009). If students believe they will be able to succeed at learning tasks or activities, they will be more likely to choose them and persist when things get difficult (Bo & Fu, 2018). The application of self-directed learning should be an important aspect in a military force operating in the 21st century (Flack & Reith, 2019). Flack and Reith (2019) argue that in order for members of the military to advance their training and education, they need to be given freedom to direct their own learning.

When students are motivated, they are likely to spend more time on their academic study and educational activities. The amount of time students spent on their studies is one of the best predictors of student success (Asmar et al., 2015).

Colombian Army and Family Factors

The recent peace process (with the *Fuerzas Armadas Revolucionarias de Colombia*, or FARC) has influenced a change in the role of the Colombian army. The Colombian army is currently transforming its culture and mindset. It supports this process with military education, as evidenced by creating a command for the transformation of the military (Lohmuller, 2016). However, military service can put enormous pressure on family life (MacDermid Wadsworth & Southwell, 2011). The military is still a male-dominated organization (Office of the Deputy Under Secretary of Defense, 2010) with a rigid hierarchical structure of ranks and privileges that focus on “command and control” (MacDermid Wadsworth & Southwell, 2011, p. 168). Military stressors include repeated relocations, frequent separations due to training, and deployments (Drummet et al., 2003). When members get deployed or have extended work hours, family members often take on new or additional responsibilities in terms of caregiving, household chores, and emotional support (Castaneda & Harrell, 2008). The close connection between personal and professional life in the military, as well as heavy workloads and increased responsibilities can create work-family conflict (Kelly et al., 2008). Vuga and Juvan (2013) argue that a military organization is by tradition one of the most demanding institutions because it requires its members to identify closely with the organization, and also expects devotion and loyalty. These demands often clash with



Figure 4
Most Effective Assignment Methods (Items A-E) Pre- and Posttest

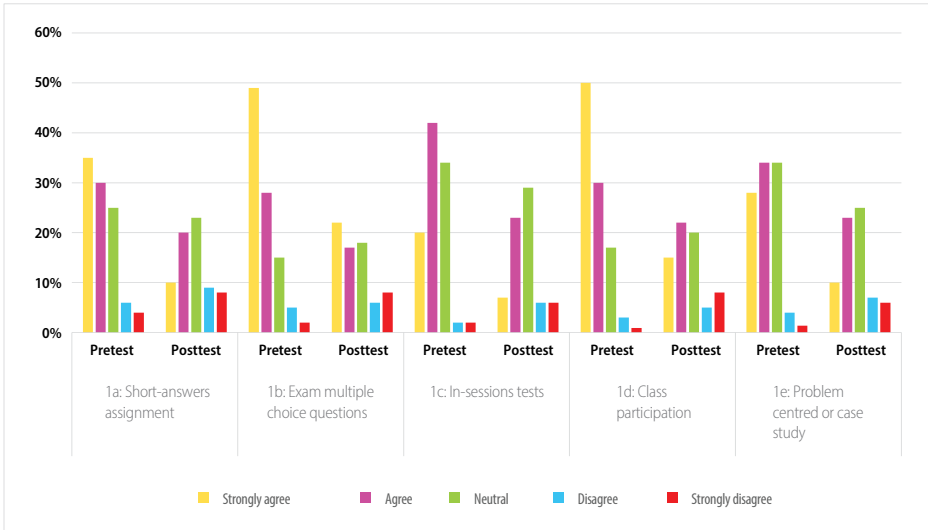
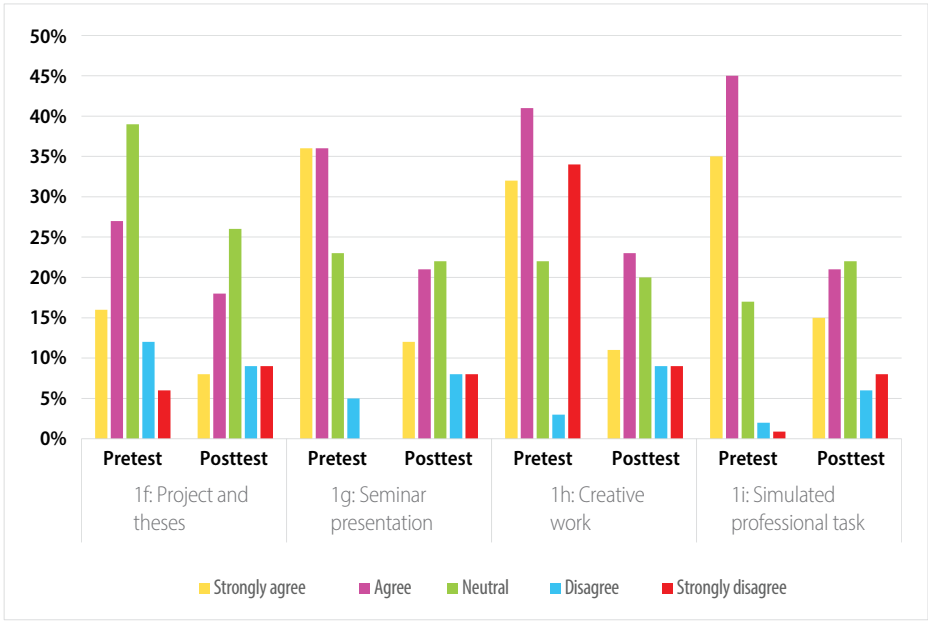


Figure 5
Most Effective Assignment Methods (Items F-I) Pre- and Posttest



family demands such as less time for family and more stress and family or private life is often subordinate to work demands (Vuga & Juvan, 2013).

In this exploratory study, we examined the motivation, attitude, and expectations of Colombian soldiers (for the purpose of this study called “students”) enrolled in a course to graduate from lieutenant to captain. We also asked them about their work-life balance to gain a better understanding of how the demands of the course specifically impacts their family lives. The research questions for this exploratory study were the following:

1. How motivated are students enrolled in the *Curso Intermedio* in the Colombian army?
2. What expectations do students hold at the start and the end of the course?
3. How much time do students spend on their coursework and are they able to find a balance between work and family life?

Table 2
Mann-Whitney U Results for Statements Regarding Assignments

Statements	<i>U</i>	<i>p</i> value
Statement 1a: Short answer assignments	13235	.00
Statement 1b: Exam multiple choice questions	13958	.00
Statement 1c: In-session tests	14378	.00
Statement 1d: Class participation	11851	.00
Statement 1e: Problem centered or case study	14480	.00
Statement 1f: Project and theses	17143	.07
Statement 1g: Seminar presentation	12308	.00
Statement 1h: Creative work	12554	.00
Statement 1i: Simulated professional task	12683	.00

Methodology

Participants

The participants in this study were officers of the Colombian army who undertook the *Curso Intermedio* at the School of Branches and Services of the National Army of Colombia.



This course is one of the requirements for first lieutenants to be promoted to the rank of captain. The age range was between 27 and 31 years old. All students were male and Colombian nationals. For this study, we collected data from two separate cohorts: one cohort of students was about to start the course ($n = 218$), and the second cohort had just finished the course ($n = 175$). No information was collected on the qualifications of the instructors. Some instructors have a teaching qualification or some teacher training while others come directly from combat and have no teaching qualifications. However, the teaching method is fairly traditional with the instructor lecturing to the students and with little room for interaction or personal input from the instructor. Unfortunately, logistical difficulties prevented us from surveying the same cohort twice. Because these cohorts were taken from the same sample of Colombian soldiers, we would therefore assume that they are comparable. The academic background of the students varied; however, all students in the first cohort held an undergraduate diploma in military sciences. Seventy percent of students had another undergraduate degree, and 77% of participants had conducted postgraduate studies. Students' professional experience background included responsibilities as leaders of military organizations at platoon and company level throughout seven years as an officer in the army. We did not ask students in the second cohort for their educational level but would assume they would be similar to the first cohort.

Survey

For this study, we designed a survey in Spanish with 17 statements focused on motivation, engagement, expectations about the course, and family-life balance on a five-point Likert scale (strongly agree, agree, neutral, disagree, and strongly disagree). We designed two versions of the survey: one version to be administered to students at the beginning of the course; and one version, similar to the first one but with slight changes, administered at the end of the course (copies of the questionnaires are available on request from the third author).

Statements included:

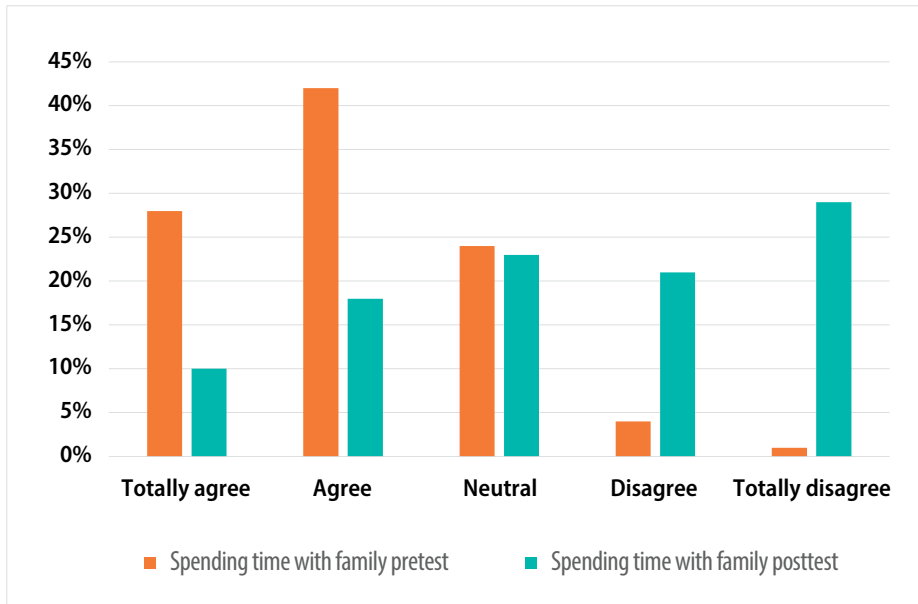
- ◆ *The intermediate course will enable you to develop academic skills to address professional challenges in other higher education institutions.*
- ◆ *I have received positive references from the alumni about the subjects of the intermediate course.*
- ◆ *The intermediate course will enable you to share quality time with your family.*

A survey was chosen due to its convenience and ability to capture the views of a large number of participants. The survey was administered by an administrative staff member employed in the army. This person was not involved in the study. During class time, the staff member explained the study to the students, and they were invited to fill in the questionnaire. By filling in the questionnaire, students automatically



Figure 6

Time Spent with Family Pre- and Posttest

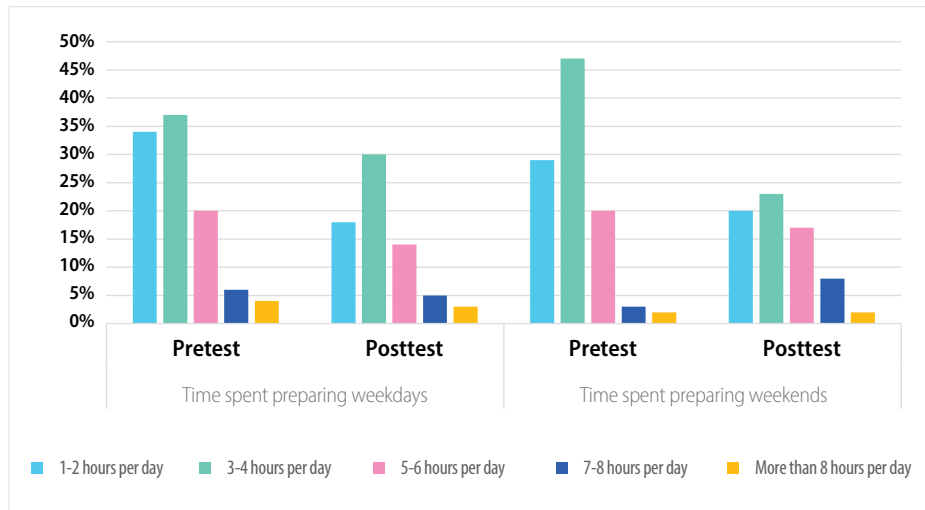


consented to participation. All enrolled students participated in the study, in both the pre- and post-test groups. This study was approved by the ethics committee of the University of Wollongong, Australia, and was conducted in 2017.

Results

The survey data was entered into an Excel spreadsheet, and analyses were run using SPSS 24. The first four statements in both the pre- and posttest were the same, and therefore, a comparison between the groups was possible. Figure 1 shows the responses to the first four statements by the pre- and posttest groups. The figure shows that the pretest group was more likely to agree with the statements or more positive than the posttest group.

To examine whether there was a statistical difference in the responses between the two groups, we used the Mann-Whitney U test. A Mann-Whitney U test can be used when the dependent variables (responses to questions 1-4) are on an ordinal level (completely agree, agree, completely disagree) (Pallant, 2010). The independent variable was the group, so one group filled out the survey *before* and one group filled out the survey *after* they completed the course. Table 1 shows the Mann-Whitney U results. For all four statements, there was a significant difference in the scores between the two groups.

Figure 7*Time Spent Preparing During Weekdays and Weekends Pre- And Posttest*

As shown in Figure 1 of the descriptive results, students in the pretest group were more likely to agree with the four statements than those in the posttest group, indicating that the posttest group was significantly less positive about the course than the pretest group.

Figure 2 shows the descriptive results for statements 5-11 for the pretest group. The figure shows that in general, the students were relatively positive about the course before it started. For example, almost 60% of the students completely agreed with the statement that they knew the responsibilities of a captain, and another 36% agreed with this statement. The students disagreed most about receiving positive references regarding the time table and the subject itself (see also Figure 2).

Figure 3 shows the results for statements 5-11 for the posttest. These were different statements than those used for the pretest, so they cannot be compared across the two samples. The results show though, that in general students were reasonably positive about the course; approximately 40% of the students strongly agreed or agreed with most of the statements. Students were least positive about how the instructors applied the methodology to make the subject interesting (question 8). The number of students that “strongly agreed” with this statement was smaller than in the pretest group.

In both the pre- and posttest, we asked students which assignment methods they deemed most effective. Figures 4 and 5 show the descriptive results for the two groups. As is evident from Figures 4 and 5, students tended to be more positive about the assignment methods during the pretest, particularly regarding multiple-choice exams (1b) and simulated professional tasks (1e). Interestingly, students in the pretest were the least positive about creative works (34% disagreed that creative works were good assignments), while this number was only 9% at the posttest.



We ran Mann-Whitney U tests between the two groups for the assignments statements. Table 2 shows there were significant differences between the groups for all the statements regarding the assignments but one (project and theses). Again, students were more positive at the pretest than at the posttest.

We also looked at whether students thought they would have enough time to spend with their families. Figure 6 shows that students in the pretest group were more likely to agree that they had enough time during the course to spend with family. Those in the posttest group were less positive, with 29% in the posttest group *totally* disagreeing that they had enough time to spend with their families. The Mann-Whitney U test was 8455 ($p = .00$), indicating there were significant differences between the two groups, with the posttest group less positive about spending quality time with their families.

Finally, we asked students how much time they spent preparing for the course during the week and weekend. Students in the pretest group said they would spend more time in preparing during both weekdays and weekends than the posttest group did (see Figure 7).

Discussion

In this exploratory study, we aimed to address the following three questions: (1) How motivated are students enrolled in the *Curso Intermedio* in the Colombian army? (2) What expectations do students hold at the start of the course? (3) How much time did students spend on their coursework, and are they able to find a balance between work and family life?

Students who were about to begin the course were far more motivated than those who had nearly completed the course. Although motivation is a complex structure, other studies have also found that motivation can decrease over time during instruction and learning (e.g., Jodaei et al., 2018). The results suggest that students start with high expectations of the course, but somehow, these expectations are not met. Students, for example, expected to acquire new knowledge, get provided with essential tools to develop academic themes, and thought the course would require high levels of academic demand. However, on the posttest, no more than 20% of students agreed with these statements (compared to sometimes up to 50% agreement on the pretest), and many shifted their responses to neutral or disagree.

One of the reasons why students' expectations might be lower at the end of the course could have been the way of delivery. Students were in general less positive about the educators or instructors and how they delivered the course content. The Colombian army tends to use a traditional approach to teaching with the teacher lecturing to students and little room for student participation or interaction. However, "didactic lecturing" has been criticised for a "one size fits all" approach that shows



little to no understanding of the complex ways in which students learn (Arvanitakis, 2014). Although there can be benefits of listening and note-taking, there is general agreement that lecturers need to do more to promote active learning and critical thinking in order for students to understand the content and retain information beyond just being lectured at (Exeter et al., 2010; French & Kennedy, 2017; Holbrey, 2020; Tormey & Henchy, 2008). The focus within military preparation programs tends to be outcome-based with the stakes to achieve excellence being very high (Vespia et al., 2016). It is possible that the traditional teaching approach of transmitting knowledge from teacher to learner makes it more challenging for students to engage in self-directed learning as they are more dependent on their instructor. Posttest results demonstrated that students were not overly positive about the effectiveness of their instructors. It is possible that there is a mismatch between the expectations of the students and the delivery of the content. Future studies could ask students about how they are expected to direct their own learning and what they expect of their instructors. This might help shed some light on instructor effectiveness, method of teaching, and student expectations.

The most widely accepted definition of self-directed learning, according to Guglielmino et al. (2004), has been defined by Knowles (1975) as the process where individuals take the initiative in identifying their learning needs, formulating their learning goals, identifying resources (human and material) for learning, implementing learning strategies, and evaluating the learning outcomes (Morris, 2018). Adults might have a deep psychological need to be self-directed and motivated; however, it cannot be assumed that adults automatically have the necessary skills to be effective in this process (Morris, 2018), and this is likely to be true for the military as well. A study by Morris (2018) found evidence of teacher-directed learning where teachers directed the objectives and means of learners (Knowles, 1975), which is a more traditional or didactical approach (Dewey, 1938; Hiemstra, 1994). Freire (1970) argues that “education thus becomes an act of depositing, in which the students are depositories and the teacher is the depositor” (p. 59). When students have more flexibility and opportunities to direct the objectives and means of learning, they can make personal meaning of knowledge and skills. This might also explain why the students were dissatisfied with the amount of time they had to spend on their studies, which limited the time they could spend with their families.

A study on soldiers pursuing a degree found that having a supportive supervisor had a positive effect on their learning opportunities (Covert, 2002). There is ample evidence in the education literature that the instructor plays a significant role on student learning (e.g., Palardy & Rumberger, 2008; Terhart, 2011). In the army, most instructors do not have a teaching degree and might not necessarily be a competent teacher. Teachers need to understand how students learn and what the most effective ways are to teach students certain content. The results in this study indicated that students liked simulated tasks and in-class participation. These are more interactive



ways of engaging students and might be of particular relevance and importance to students in the army. If the army is interested in increasing the motivation of its students, which might in turn lead to better performance, it could be useful to review the teaching qualifications of the instructors as well as the methods used.

The course the students in this study have to take is a required course in order to be promoted to captain. Students will have a priori expectations about the course, in particular when it is one they are required to take and not one they choose to take. Boshier (1979) argues that reasons for participation should be congruent with the dominant needs of the individual. When students believe they already possesses all the knowledge, their motivation will be lower than someone who believes he or she will learn something during the course.

Another impediment to motivation in the post-test group could have been the limited time students had available to spend with their families. Students in the posttest were significantly more negative about having enough time to spend with their families. Currently the course starts early every morning. The military base where the course is offered is situated in one of the most affluent neighborhoods in Bogota. Unfortunately, most soldiers do not earn enough to be able to live in this area and they need to travel long distances to get to the military post in time. This means they leave very early in the morning and come home late. This limits the time they can spend with their families as they might not be there in the morning to take their children to school or pick them up in the afternoon after school. Informal conversations with current students confirmed this explanation. Military families often experience stressors other population groups do not encounter such as frequent moves, periods of extended family separation, living far away from extended family support systems, and the threat of harm to or death of a loved one (Black, 1993; Denning et al., 2014; Robertson & Black, 2017). Families can also struggle with the emotional effects of having a family member deployed and then struggling to reintegrate back into the family (e.g., Clymer et al., 2008; Ebata et al., 2013). Robertson and Black (2017) found in their study of six Canadian veterans that all of them struggled finding a balance between their military and parent roles. The authors noted that when work involves a high level of stress or trauma, it can be even more challenging to find a balance between their parent and military roles (Robertson & Black, 2017).

Conclusion


Results from this study suggest that students enrolled in the course started with high expectations and were quite highly motivated. However, motivation among students dropped significantly by the end of the course. As most instructors in the army do not hold teaching qualifications, it would be worthwhile to evaluate the teaching practices of the instructors and provide training where needed. Many students indicated that the course interfered with their family/life balance as students had to get



up early to travel through the city to get to the base. The army might consider starting later in order for students to spend more time with their families in the morning. This study is a snapshot of prospective captains' views on the course. For a better evaluation of officers' motivation, attitude and engagement, we would recommend following a selection of captains over time to examine the relationship between expectation and motivation. It would also be helpful to interview a selection of officers who finished at the top, the middle, and the bottom of their class and look more closely at differences in motivation and expectations between the groups.

Limitations

This study was an exploratory study as not much is known about motivation among Colombian soldiers undertaking courses in the army. As we used two different samples, differences between the two might have been due to preexisting differences between the two groups. Future studies should follow cohorts and also look at how students perform at the rank of captain after completing the course. This would allow examination of the relationship among motivation, attitude, and performance.

This study is limited in that we only collected data via survey and the data was self-reported. A more complete study would conduct focus groups or interviews with students. It would also be helpful to examine the contents of the course, as well as how the course is delivered and the qualifications and instructional strategies used by the instructor and comparisons among instructors of the same course. 

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The Influence of Social Factors in U.S. Army ROTC

A Qualitative Exploration

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Abstract

More than 60% of the commissioned officers in the U.S. Army are initially trained in the Reserve Officers' Training Corps (ROTC; U.S. Army, n.d.). Therefore, it is important to cultivate an environment in ROTC that allows cadets to function optimally, learn at a high level, and develop into competent, well-rounded leaders. According to self-determination theory (Ryan & Deci, 2017), people's perceptions of the three basic psychological needs of competence, autonomy, and relatedness serve as the mediators between social factors in the environment and their cognitive, affective, and behavioral development. The purpose of this study was to qualitatively explore the perceived influence of social factors on U.S. Army ROTC cadets' basic psychological needs. Analysis of semistructured interviews with 14 cadets revealed three themes: (a) social factors that influenced cadets' perceptions of competence, (b) social factors that influenced cadets' perceptions of autonomy, and (c) social factors that influenced cadets' perceptions of relatedness. Findings suggest that the presence and magnitude of situational and contextual factors initiated intra- and interpersonal fluctuations in participants'

perceptions of all three basic psychological needs. Therefore, by facilitating social factors that nurture individuals' needs and removing those that thwart them, it is possible to cultivate an optimal learning environment in ROTC.

The Reserve Officers' Training Corps (ROTC) represents a cornerstone of the U.S. Army's organizational structure. ROTC is responsible for developing more officers than all other commissioning sources in the U.S. Army combined (U.S. Army, n.d.). Since its inception in 1916, more than 500,000 individuals and, therefore, over 60% of all commissioned officers have been trained in ROTC (U.S. Army, n.d.).¹

The time in ROTC is crucial in officers' development, because this "pre-commissioning phase of an officer's training will lay the framework and foundation for lifelong learning" (Wiedemann, 2005, p. 1). As cadets mature in ROTC, they become aware of the importance of situational contexts that can influence effective leadership and optimal performance (Gilson et al., 2015). The general process and quality of ongoing learning have become increasingly critical in the military because with "evolving threats and an ever-changing environment, the Army of today and the future must have leaders who know how to think and not just what to think" (Wiedemann, 2005, p. 1). In fact, with the introduction of "mission command" as the foundational philosophy for leadership in the U.S. Army, officers are required more than ever to "exercise disciplined initiative to respond to unanticipated problems" (U.S. Department of the Army, 2012, p. 2). Without the successful indoctrination of cadets, there is a meaningful threat to the Armed Forces that is directly associated with an increased likelihood of mission failure and, in the worst case, fatality (Jennings & Hannah, 2011). It is crucial for the U.S. Army to cultivate an environment in ROTC that allows cadets to function optimally, learn at a high level, and develop into competent, well-rounded leaders.

The literature in social psychology indicates that people's thoughts, feelings, and behavior are meaningfully shaped by situational and contextual factors in the environment. In particular, how others behave toward individuals can tremendously influence their cognitive, affective, and behavioral experiences (Vallerand & Losier, 1999). In ROTC, cadets are taught, trained, and mentored by their cadre who are directly responsible for providing "assessment and feedback arranged around the attributes and core leader competencies" (U.S. Army Cadet Command, 2011, p. 7) of the U.S. Army. The relationship with those cadre plays a substantial role in determining, among others, cadets' organizational commitment (Mathieu, 1988). Furthermore, cadets spend a significant amount of time learning, training, and socializing with their peers. Such formal and informal group interactions can have a substantial im-

pact on individuals' motivation, performance, personal development, and interpersonal development, as well as their internalization of organizational values, goals, and behaviors (e.g., Goodwin et al., 2018; Raabe et al., 2016). In an attempt to nurture an optimal learning environment in ROTC, it therefore seems valuable to investigate the role of social factors (e.g., cadre, peers) in shaping cadets' experiences.

Across various settings (e.g., academics, military, sport; Alivernini & Lucidi, 2011; Delahaij et al., 2014; Raabe et al., 2016), self-determination theory (Ryan & Deci, 2017) has been utilized as a framework to explore the influence of social factors on individuals' cognitive, affective, and behavioral development. Ryan and Deci (2017) propose that every person has three inherent basic psychological needs: competence (the ability to interact effectively in the environment), autonomy (being the director of one's actions), and relatedness (having a meaningful connection to others in the surrounding). People's perceptions of competence, autonomy, and relatedness function as mediators between social factors in the environment and individuals' thoughts, feelings, and behavior (Vallerand & Losier, 1999). What appears of particular relevance in the development of future military leaders in ROTC is that the satisfaction of the three basic psychological needs has shown to enhance people's motivation toward learning, allowing them to be more persistent and effective in their pursuit (e.g., Alivernini & Lucidi, 2011; Carmona-Halty et al., 2019; Goldman

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et al., 2017). More specifically, mission command empowers leaders when “decisions must be made quickly at the point of action” (U.S. Department of the Army, 2012, p. 2). Therefore, military learning environments such as ROTC need to nurture individuals’ ability to act independently and confidently or, in line with self-determination theory, with autonomy and competence. Cadets who feel competent, autonomous, and related are also more likely “to transform socially sanctioned mores or requests into personally endorsed values and self-regulations” (Deci & Ryan, 2000, pp. 235–236), which means they will more effectively internalize U.S. Army values and immerse into the military’s organizational culture. In contrast, when cadets’ basic psychological needs are “being obstructed or actively frustrated within a given context [i.e., thwarted]” (Bartholomew et al., 2011, p. 78), they have a higher likelihood of experiencing negative cognitive, affective, and behavioral outcomes in their engagement (Costa et al., 2015).

Delahaij et al. (2014) utilized self-determination theory as a framework to examine the influence of instructor support on Royal Dutch Navy recruits’ intent to quit basic military training. A total of 208 recruits evaluated how much autonomy support their instructor provided (i.e., “the extent to which instructor behavior endorses the intrinsic interests of students and avoids external incentives and threat” [Delahaij et al., 2014, p. 179]). Delahaij and colleagues (2014) found that these perceptions of instructor behavior significantly predicted recruits’ self-efficacy, which, in turn, affected their intent (or lack thereof) to leave basic training. Although this endeavor provided an understanding of one potential benefit of fostering optimal social interactions in a military setting, the study was not conducted in ROTC, was limited to the influence of instructors, and did not explore the impact of social factors on individuals’ basic psychological needs.

In ROTC, Raabe et al. (2020) quantitatively investigated the perceived cadre behavior, basic psychological need satisfaction, and motivation of 728 cadets. They found that, on average, cadets in their research indicated satisfactory levels of perceived competence ($M = 5.22$ out of 7) and autonomy ($M = 4.87$ out of 7).² Despite these promising findings, Raabe et al. (2020) also revealed shortcomings in cadre’s support of cadets’ need fulfillment. That is, while cadre were perceived to be actively involved in cadets’ lives in ROTC, they did not seem to sufficiently engage in behaviors that fostered participants’ feelings of competence and autonomy. It appears that cadre may be missing an opportunity to further contribute positively to cadets’ cognitive, affective, and behavioral development. However, Raabe et al.’s (2020) quantitative approach did not allow for a more in-depth exploration of social factors. In addition, the endeavor was limited to an investigation of the impact of cadre and, therefore, did not consider other potentially important social factors in cadets’ environment (e.g., peers). Accordingly, the purpose of the current research was to explore qualitatively the perceived influence of social factors on U.S. Army ROTC cadets’ basic psychological needs.

Method

Participants

A total of 14 ROTC cadets (seven men, seven women) from universities in the northeast and southeast of the United States partook in this study. All participants self-identified as White/Caucasian and were, on average, 20.9 (\pm 1.1) years old. The sample comprised six seniors (Military Science [MS] IV), four juniors (MSIII), and four sophomores (MSII). At the time of their involvement, all cadets received financial support from an ROTC scholarship. While 11 participants planned to serve on active duty upon graduation, three wanted to join the U.S. National Guard. Only one participant had enlisted in the U.S. Army before entering ROTC.

Philosophy

An interpretivist research paradigm (Smith et al., 2012) was adopted for this study. In terms of ontology, the authors believed in “social reality as multiple, subjective, and existing in the form of mental and discursive constructions” (Smith et al., 2012, p. 376). This philosophy entailed a subjectivist and constructionist epistemology as the researchers acknowledged that “the knower and the known are interdependent and fused together in such a way that the ‘findings’ are the creation of the process of interaction between the two” (Smith et al., 2012, p. 376). That is, while cadets subjectively construed their experience in ROTC and perceptions of competence, autonomy, and relatedness are inherently subjective, the researchers constructed knowledge about social factors and their influence on participants’ basic psychological needs following an interpretation of the data in accordance to self-determination theory.

Procedure

Upon approval by the respective universities’ institutional review boards and U.S. Army Cadet Command, current ROTC cadets who were at least 18 years of age were recruited to participate in the present study. Initially, first author Johannes Raabe contacted cadets from a sample of convenience (i.e., those whose contact information was already available to the researchers; $n = 6$). Using a snowball method, those individuals were subsequently asked for the name and contact information of other current cadets they knew who may be interested in participating in the study. All participants were informed of the purpose of the research and that their participation was volun-

tary. Overall, 24 cadets were contacted and, of those, 14 agreed to partake in this study (58.3% response rate) and provided informed consent for their involvement.

Semistructured interviews were used to collect all data. The interview guide was developed based on an in-depth review of the literature on self-determination theory (Ryan & Deci, 2017) as well as previous protocols that have been used to explore social influences on individuals' perceptions of competence, autonomy, and relatedness (e.g., Raabe et al., 2016). Raabe, who conducted all interviews, initially explained each basic psychological need to the interviewees separately. In this process, participants were encouraged to ask questions for further clarification. Once the interviewer felt the cadets had a good understanding of a particular need, he inquired about (a) their perceptions of this need in ROTC and (b) the influence of social factors on their perception of the need. The interviewer utilized a neutral (e.g., "affect" or "influence") instead of a valued (e.g., "satisfy" or "thwart") perspective when inquiring about the perceived impact of social factors to allow participants to, if appropriate, describe accounts of both need satisfaction and thwarting (see Costa et al., 2015, for a discussion of conceptual differences). For an in-depth exploration of individuals' experiences, Raabe used probes and follow-up questions throughout the interview.

Before data collection, Raabe conducted a pilot interview with one current cadet from a sample of convenience. This process allowed for slight adjustments to the protocol, which improved the clarity of the explanations of the three basic psychological needs as well as the wording of some of the individual questions. Subsequently, interviews were conducted either in person ($n = 8$) or via phone ($n = 6$) based on the participants' location. Interviews were audio-recorded, transcribed verbatim, and lasted between 30 and 71 minutes ($Mdn = 44$ minutes).

Researchers' Backgrounds and Subjectivities

Self-reflexivity on behalf of investigators about their assumptions before and throughout data analysis helps to improve the trustworthiness of the process and allows for interpretations to be more accurately grounded in the data (Tracy, 2010). While it is not possible to fully remove subjectivities, describing researchers' backgrounds and biases offers transparency regarding their potential influence on the procedures. The interview data in the current study were analyzed by a research team that consisted of the first, second, and third authors as well as a research assistant. The first author is a male PhD and faculty member in sport psychology. He has previously conducted research with ROTC and has provided applied sport psychology services for cadets and cadre. The second author, Zakrajsek, is a female PhD and faculty member in sport psychology. The third author, Eckenrod, is a female PhD and faculty member in sport psychology who has experience as a mental performance consultant in ROTC.³ The research assistant is a female undergraduate

student in psychology. All researchers are well-versed in self-determination theory, had previous experience analyzing qualitative data, and did not have a professional relationship with any of the participants.

The researchers expected that cadets' basic psychological needs, especially autonomy, would not be fully satisfied in ROTC. They believed that contextual factors (e.g., time constraints) would meaningfully hinder individuals' need fulfillment. Furthermore, all researchers thought that relationships with cadre and peers would play a crucial role in determining cadets' perceptions of competence, autonomy, and relatedness and, in turn, their overall experiences in ROTC.

Data Analysis

The interview data were analyzed using thematic analysis (Braun & Clarke, 2017). First, the four members of the research team independently read the interview transcripts multiple times to familiarize themselves with the data. This process also allowed for a preliminary exploration of the data for meaning in participants' words and potential patterns across the 14 interviews. Second, the researchers independently generated initial codes. In line with the current study's purpose, the coding procedures were deductive to explore participants' perceptions of the influence of social factors on their three basic psychological needs. Third, once the researchers completed their independent analysis, they met multiple times to discuss how to organize different codes into lower-order themes. Based on their relationships and significance in representing the data, the subthemes were subsequently collapsed into higher-order themes. Fourth, the research team members personally reflected on the initial themes before reconvening as a group to finalize a thematic structure that accurately represented the participants' accounts. Engaging multiple people in the thematic procedures helped to enhance the trustworthiness of the findings (Tracy, 2010). Fifth, the themes and subthemes were labeled to give the reader an immediate understanding of their meaning. Sixth, once the researchers consensually agreed that the thematic structure was trustworthy in representing the data, the current manuscript was produced. All names associated with the quotes in the following descriptions are pseudonyms (chosen by participants).

Results

The current findings depict social factors in the ROTC environment that affected cadets' three basic psychological needs. Depending on the perceived presence and magnitude of these factors, cadets described their experiences as either need-fulfilling or need-thwarting. One participant highlighted this when he explained that

cadets' sense of competence, autonomy, and relatedness "in ROTC fluctuates incredibly, no matter what anyone tells you."

Theme 1: Social Factors That Influenced Cadets' Perceptions of Competence

Cadets described three social factors they perceived to have a meaningful influence on their sense of competence: (a) type and extent of experience in ROTC, (b) support from "older" cadets, and (c) cadre guidance.

Type and Extent of Experience in ROTC. Cadets described that their experience in ROTC played a meaningful role in determining how competent they felt. Jim mentioned that initially, "as an [MS]I, it is a little tricky 'cause you're definitely not as confident." As Jim continued to explain, the low levels of competence most cadets perceived as freshmen (and sophomores) mainly developed because they compared themselves to other, more experienced ones in the programs, "being around all these older guys ... it seems like I'm looking up at a skyscraper when I'm talking to somebody." However, the more time cadets spent in ROTC, the more they perceived their need for competence to be satisfied. It was particularly cadets who were involved in specialty companies (e.g., Color Guard, Ranger Company) who reported a high level of perceived competence, because they thought that these opportunities allowed them to spend additional time interacting with cadre and, as a result, advance their knowledge and skill beyond the regular instruction they received in ROTC.

The most impactful experiences on cadets' sense of competence were related to leadership. Lilly, for example, described that her perceived competence improved when cadre "distributed the leadership for this semester. I never thought of myself as super high up in the class, but then when they announced all of the squad leaders ... the leadership fulfills that [perceived competence]." Many of the seniors in the current study shared how different experiences helped them feel competent during the Leadership Development and Assessment Course. Brennan described,

We do a lot of marching movements, a lot of facing movements and being in front of a platoon, so I think that helped me prepare, and I wasn't nervous at all. I can call in cadence, do the right movements and turns ... We all take turns here doing that starting MSII year, so I feel like I was competent in that ... we do the same tactics every year ... it's instilled in my brain now. I feel like that was positive and throughout all the camp tests ... I was very prepared.

Support From "Older" Cadets. Cadets explained that "older" cadets (i.e., those individuals with more years in the program) had a meaningful influence on their sense of competence. The guidance they perceived from MSIII and MSIV cadets

during their early years in the program allowed them to learn more effectively and feel capable of meeting the expectations of ROTC. John shared that when the seniors interacted with him as a freshman, he started to believe that “Maybe I’m worth something a little more than I thought, you know? Maybe this program needs me a little bit,” which enhanced his perceived competence.

Erica mentioned that mentorship from more experienced cadets also happened outside of the formal structure of ROTC:

You would come and hang out in the [name] building. That’s where ROTC had the cadet lounge. We had a whiteboard and you can write down training plans. We also had a google drive, and I got the crash course on how to make PT plans. They did all of that outside of like regular ROTC stuff.

These informal interactions helped cadets feel more competent in completing their responsibilities. Regardless of the specific nature, support from “older” cadets had a powerful effect on participants’ overall experience in ROTC. Erica, for instance, mentioned that the mentorship she received was “the reason why I ended up staying with the program because there was a female in the class ahead of me that kept me accountable. She was like a role model for me; I wanted to be like her.” In turn, participants who felt supported by “older” cadets during their early years in ROTC were compelled to help younger cadets when they were in MSIII and MSIV.

Cadre Guidance. Cadets explained that the more guidance they perceived from their cadre, which included information, instruction, praise, constructive criticism, and personal advice, the more competent they felt. For example, Dan described the value of positive feedback from cadre: “If they keep praising you, then you feel more confident.” He continued to share that he also perceived cadre’s criticism as beneficial as long as they communicated it constructively. “If you do bad, and they’re like, ‘You did bad, but here’s what you could work on.’ And they try to curve that. Then, your confidence doesn’t go down.” While cadre’s guidance entailed structure that cadets had to adhere to, participants were able to differentiate between having a lack of control and receiving valuable instruction. Formal guidance nurtured cadets’ sense of competence but not at the expense of their perceived autonomy.

However, while participants expressed that cadre guidance played a vital role in fostering their perceived competence, they also thought there were discrepancies in the frequency and quality of guidance cadre offered to different cadets, which affected their satisfaction of this basic psychological need. Buck, for example, shared a positive perspective:

I believe that they enjoy teaching us ‘cause they realize like “[explicit] I gotta teach ‘em because nobody else will. When they’re in [the U.S. Army], they’re gonna be in charge of people and I don’t want them killing my people.”

In contrast, Lilly described that she sometimes felt neglected due to her appearance:

I think the cadre a lot of times just see a blond girl. So when they see me out in the field or whatever they don't really want to give a lot of feedback 'cuz it's kind of like they are wasting their time.

While not many cadets in this study reported such examples of sexism, it was not uncommon for them to discuss that the feedback they received from their cadre was based on factors other than their actual performance.

Theme 2: Social Factors That Influenced Cadets' Perceptions of Autonomy

Cadets described three social factors they perceived to have a meaningful influence on their sense of autonomy: (a) structure of ROTC, (b) cadet standing, and (c) relationship with cadre.

Structure of ROTC. Cadets discussed various aspects of the structure of the U.S. Army, and by extension ROTC, and the role it played in determining their perceived autonomy. Buck stated that “the Army is not a democracy” and this hierarchy was something that all participants acknowledged. As a result, they recognized that the choice and input they had in their role was restricted due to their position in the overall organization. Cadets were aware that the content of their training was largely predetermined by cadre and, on a higher level, cadet command. Consequently, as Dan mentioned, cadets thought their choice and input was generally “on a very small scale” and mainly related to the implementation of the instructions they received. For example, Brennan described that the topic of labs was typically prearranged, and then cadets “get to decide how we’re going to teach ... so we’ll do like stations or something on how to physically do it.” According to the cadets, the structure of ROTC directly impacted the *type* of choices and input they had. However, it was primarily the following two social factors that determined the *magnitude* of autonomy they perceived.

Cadet Standing. Cadets thought that within the structure of ROTC, the degree to which they were able to give input, make decisions, and consequently perceive autonomy largely depended on their year in the program and leadership position within the battalion. As Michael summarized, cadets’ sense of autonomy was extremely limited during their first two years in ROTC:

As an MSI, you are really just there to absorb the very base working knowledge. We don't really try to overwhelm them with the whole leadership thing. You're just there to watch ... and figure out what's going on and if it's

something you might be interested in. As an MSII, they have like that base-line knowledge, so they think they know what's going on, but they still don't have any leadership roles really. So they're still kind of there just learning and seeing what's going on and waiting for their turn to get to lead.

However, cadets also acknowledged that this initial lack of choice and input was generally accepted because they recognized that new cadets typically do not have the necessary knowledge to make adequate decisions. Cadets in MSI and MSII seemed to feel less autonomy than upper-level students, but their lack of choice and input did not appear to actively thwart their perception of this basic psychological need. As cadets progressed through the program, they thought that cadre involved them more in decisions. Reflecting on her senior year, Erica explained that her need for autonomy was “completely satisfied as an [MS]IV, and there was no one telling me what to do ... as long as I met those PT and lab expectations.”

Relationship with Cadre. In addition to the structure of and their standing in ROTC, cadets shared that the nature of their relationship with cadre members affected the level of autonomy they perceived. Dan described that the quality of the cadet-cadre relationship was meaningfully shaped by “how much you put yourself out there in ROTC ... if you're really involved, you'll talk to [cadre] more 'cuz you'll see them more.” In turn, cadets felt that when they interacted with cadre members on a more regular basis, they were able to cultivate the trust that was necessary to receive a high level of input and choice, which fostered their sense of autonomy.

Yet, cadets also explained that their perception of autonomy was often simply determined by how much cadre liked them. Dan expressed this sentiment when stating,

There are some cadets that the cadre don't like at all and no matter what they do, they're probably gonna shoot them down. There are some cadets that the cadre love and no matter what they do, they're gonna pull them up.

Thus, whether positive or negative, cadets perceived their relationship with cadre to have a strong influence on the level of autonomy they thought they had in ROTC.

Theme 3: Social Factors That Influenced Cadets' Perceptions of Relatedness

Cadets described five social factors they perceived to have a meaningful influence on their sense of relatedness: (a) friendships with other cadets, (b) alignment of personality and interests, (c) cadet standing, (d) cadre rank and experiences, and (e) post-ROTC plans.

Friendships with Other Cadets. Cadets thought that the quality of relationships with their fellow cadets was an essential determinant of their perceived relatedness. When asked about her relatedness, Lilly shared,

I think it's really satisfied because it's just an entire family where people will accept you if you are able to stay and able to go through the trials and tribulations that come along with it ... considering a lot of my friends are in ROTC and people I think I'll know for the rest of my life, there's a lot of relationships and feeling valued and being accepted.

These friendships with fellow cadets and the associated influence on cadets' sense of relatedness had a critical effect on their overall experiences in ROTC. For example, Lilly explained how close friendships helped her persist in ROTC: "I think that's kind of what brought me back the second semester when I wanted to quit, that there were just so many people I was really good friends with and wanted to stay around."

While the majority of participants described positive relationships with other cadets, some recognized that there was also strong competition between cadets, especially for preferred assignments upon commission, which at times diminished their sense of relatedness. Brittney explained,

You really have that rivalry between everybody because, honestly, ROTC is a competition. It's a huge competition with every other ROTC cadet in the nation. I think that's kind of where some tension comes from. Yeah, these people are your friends, but ultimately, you're competing with them.

Cadets' need for relatedness was more fulfilled when they were able to develop friendships with their peers and supported one another rather than focusing on the inherent competition between them.

Alignment of Personality and Interests. While ROTC provided cadets with ample opportunities to interact and spend time with one another, their personalities and interests did not always seem to align, which diminished their feelings of relatedness. Brittney described that

The Army is definitely a place for type-A personalities, especially when you're talking about going into a leadership role as an officer. I mean your first day you'll be in charge of 40 something people, so it definitely takes somebody who's gonna stand up and not be afraid to say "Alright, I'm here. We're gonna get stuff done." So when you have those type-A personalities, they kind of butt heads with you know, "My idea is better. No, we need to do it this way. No, you haven't thought this through."

As Brittney continued to explain, having different personalities in a battalion and “figuring out how to work with people is probably the biggest challenge, especially for people who don’t have that many people skills.” Whether or not cadets were able to successfully navigate interpersonal conflicts affected their sense of relatedness.

Cadet Standing. Similar to their perceptions of autonomy, cadets’ year in the program and leadership position within the battalion had a meaningful impact on how related they felt with cadre. Partially, this was simply due to logistics as Jim described:

Each year you have a different cadre member who’s kind of the advisor of your class ... you’ll form a bond with them and you’ll get close to them. Then, you’ll go to the next year and get close to another cadre member.

Cadets also shared that they generally developed closer relationships with their cadre once they progressed in the program. John stated,

I would say the higher in the leadership you are, the more of a relationship you get with your cadre. Obviously, as a freshman, you’re not going to be with your cadre much at all. You see them in class, that’s about it ... But as you move up in leadership, you become a lot closer with your cadre because you’re working with them more.

Cadets thought it was typically not until their later years in ROTC that they developed a strong sense of relatedness with their cadre.

Cadre Rank and Experiences. Cadets shared that cadre’s rank and experiences influenced the development of relationships and their sense of relatedness. One aspect that positively contributed to cadets’ perceived relatedness was their admiration for cadre’s achievements in the military. For example, Jim mentioned,

You see all their great accomplishments, all the badges they have on their chests, what’s on their shoulders, and stuff like that. And you hear about some of their stories that they talk about during class, you’re like, “you guys were high speed” ... they’re pretty badass ... talking to them and seeing these cadre members walk around, it just makes you think you belong here.

This admiration ultimately not only increased cadets’ sense of belonging with their cadre but with the military in general.

However, while cadre’s experiences seemed to enhance how related cadets felt to them, their rank sometimes represented a challenge for the fulfillment of this need. Cadets had immense respect for cadre’s rank and, as a result, were often too intimidated to approach them. This interpersonal challenge was most often

mentioned about the professor of military science, and it was not uncommon for cadets to share experiences similar to what Johnny described when asked about his connection with the head of the program: “My relationship with Major [name]? I don’t really know him. We have small-talk now and then, but in general, we stay out of each other’s way.”

Cadets also expressed that they felt like some cadre did not want to be in ROTC and it was challenging to feel related to them. Brittney described those cadre as

Closed off. They come across as not really wanting to be there thinking, “This sucks. I’m around a bunch of 18 and 22-year-old cadets. I don’t want to do this ... This is a stupid assignment ... I wanna go back to Afghanistan.”

Brittney thought that this mindset not only negatively reflected in those cadre members’ attitude but also, more tangibly, in the fact that “some of the cadre my freshman year are members that you could never find anywhere. Like you’d go to ask them for help and they were never there.” Such experiences prevented participants from perceiving any relatedness with those cadre.

Post-ROTC Plans. Some cadets mentioned that the plans they had for when they graduated ROTC were not in line with what their cadre expected of them. While this was not the case for all cadets in the current study, those who experienced such a disparity in “expectations” felt it had a powerful negative influence on their perceived relatedness. Cadets who shared this struggle either did not plan on serving on active duty or wanted to go into a different branch than their cadre. The latter seemed to be most prominent when cadre were infantry. Lilly, who wanted to go to medical school and did not plan on serving on active duty, described the meaningful challenges she faced with some cadre due to her post-ROTC plans:

[Cadre] can be broken up in two groups or the ones that think infantry is the only way to go, and combat arms is the only way to go, and the ones that see the validity in the support branches ... that the support branches are just as important and the combat arms can’t survive without the support ... ‘cuz a lot of them if you aren’t going infantry, they don’t really care. That changes the relationship a lot because if it’s somebody that just doesn’t see the validity in what I want to do, or they say they do, but it doesn’t show when they are trying to teach you something, that kind of defines the relationship a lot.

Cadets felt like it was challenging to develop positive relationships with cadre in those cases. Lilly mentioned, “If they don’t see themselves in the cadets, then I don’t think they think they are going to succeed.” Cadets who shared this experience felt their need for relatedness thwarted because cadre treated them differently (i.e., worse) than other cadets.

Discussion

This research was designed to explore social factors in the ROTC environment that influence cadets' perceived competence, autonomy, and relatedness. Overall, while the present findings emphasize some structural elements (e.g., the hierarchy of the military) that seem to affect cadets' basic psychological needs (especially their perceived autonomy), other people (i.e., peers and cadre) appeared to play a more crucial role in determining cadets' need fulfillment. This result highlights that, to put it in one of the cadets' words, "the Army is a people business" (Brittney) and the development of an optimal learning environment in ROTC seems to largely depend on the cultivation of need-fulfilling interactions and relationships.

Implications for the Development of a Competence-Supportive Learning Environment

Cadets in this study expressed that when they felt they received information, instruction, constructive criticism, and personal advice from cadre and more experienced peers, they were able to learn more effectively and, as a result, felt more competent in meeting the expectations of ROTC. These results support the conceptual assumptions of self-determination theory in that the best circumstances for the satisfaction of competence (and autonomy) are not necessarily those that provide individuals with complete independence (Deci & Ryan, 2000). In fact, most individuals require "the provision of clear and consistent rules and goals before the activity, guidance and assistance during the activity, and constructive feedback after the activity" (Curran et al., 2013, p. 31) to develop achievement-related competencies, which is a key aspect of cadets' learning process in ROTC (U.S. Army Cadet Command, 2011).

In practice, this conclusion suggests that developing an optimal learning environment in ROTC is not a matter of limiting structure and guidance, but instead, dependent on the way such input is implemented. Specifically, cadre (and cadets) need to be aware of how they provide leadership to enhance cadets' perceived competence as they learn military competencies without simultaneously diminishing their autonomy. This can be accomplished when cadre are mindful of the way they give competence feedback as to focus on its informational (i.e., offering relevant advice focused on behavioral change) rather than controlling aspect (i.e., communicating pressure to obtain a specific outcome; Ryan, 1982). According to Carpentier and Mageau (2013), such change-oriented feedback should be empathetic (e.g., considerate of task-difficulty), accompanied by possible solutions and tips (i.e., different choices and relevant information on how to correct the behavior), based on clear and attainable objectives, delivered in a considerate tone of voice, and avoid

person-related statements (e.g., personal attacks or depreciation). Future researchers should explore how cadre can best find the balance between guidance and independence to most effectively nurture cadets' perceived autonomy and competence as they matriculate through ROTC.

Implications for the Development of an Autonomy-Supportive Learning Environment

Cadets described that they perceived more autonomy when they had a sense of choice and input in their engagement, which is in line with the conclusions from previous research in other settings (e.g., sport; Curran et al., 2013). What deserves particular attention is that while this sense of autonomy was generally experienced more meaningfully by “older” cadets (i.e., MSIII and MSIV), the apparent lack of choice and input for cadets early in the program (i.e., MSI and MSII) did not seem to thwart their need fulfillment. When considering the basic psychological need of autonomy, scholars often emphasize people's ability to be the director of their own actions (i.e., have meaningful input and choice in their behavior; Ryan & Deci, 2006). However, Ryan and Deci (2006) argued that this perspective is insufficient because

One can have many options and not feel autonomy, but instead feel overwhelmed and resentful at the effort entailed in the decision making. Alternatively, one could have only one option (which functionally means no choice) and yet feel quite autonomous so long as one truly endorses that option. (p. 1577)

In other words, Ryan and Deci (2006) suggested that to feel genuinely autonomous, individuals must not only be able to act with a sense of volition but also need to do so in accordance with their values.

The current findings indicate that cadets—especially MSI and MSII—did not have much control over their participation in ROTC and, therefore, may not experience complete satisfaction of their need for autonomy. Conversely, these very same cadets might have experienced a partial internalization based on the pride they felt for being an ROTC cadet; as such, they were willing to give up choice to pursue something that they valued. As a result, future researchers should investigate ROTC cadets' values to better align the learning environment with those principles. In the development of ROTC cadets, there are certainly times when it is not practical or appropriate for cadre to offer choice. In these situations, cadre should attempt to provide cadets with a rationale for their decisions because awareness of the underlying reason for their behavior allows individuals to engage with more purpose (Mageau & Vallerand, 2003) and, consequently, increas-

es the likelihood that they will internalize (i.e., personally endorse; Deci & Ryan, 2000) the value of their activities.

Implications for the Development of a Relatedness-Supportive Learning Environment

Cadets described the importance of the cadre-cadet relationship in fostering not only their relatedness but also their satisfaction of all three basic psychological needs. This finding supports Deci and Ryan's (2000) assertion that "a secure relational base appears to provide a needed backdrop—a distal support—for intrinsic motivation, a sense of security that makes the expression of this innate growth tendency more likely and more robust" (p. 235). The present findings highlight several considerations for the development of an optimal learning environment in ROTC. First, cadre should be acutely aware of their own experiences, rank, and biases and how those subjectivities may influence their interactions with cadets. Specifically, while cadre's military background fostered inherent respect from cadets (which nurtured perceived relatedness), it also made cadets less comfortable to approach them. Moreover, whether cadre were aware of it or not, several cadets in the current study thought that cadre treated them differently when their career plans did not align with cadre's own path (e.g., different branch). While it may not be possible to eliminate their subjectivities altogether, improved self-awareness can likely help cadre to—at least—bracket their biases to foster more optimal cadet-cadre relationships.

Second, in line with the results of Raabe et al. (2020), individuals in the present study felt that cadre gave meaningfully less attention to cadets in their first or second year in the program. Most participants appeared to understand that due to their lack of experience, those "younger" cadets may not be able to receive the same amount of choice as upper-level students. Yet, participants did not share the same sense of understanding or acceptance concerning the disparity in the attention cadre paid to cadets based on their student grade level. It is possible that cadre wanted to focus on those cadets who are closer to graduation to prepare them more optimally for their upcoming transition into active duty (or the National Guard). However, the current findings indicate that this perceived discrepancy in involvement from cadre has a negative influence on "younger" cadets' need fulfillment. It seems reasonable to suggest that MSI (and MSII) cadets require just as much help as upper-level students because they face their own transition into ROTC and the military. Doganca (2006) reported that about 10.3% of all scholarship cadets leave ROTC following their freshman year. In line with the findings of Delahajj et al. (2014), it is possible that by providing additional support (e.g., in the form of emotional encouragement; Mageau & Vallerand, 2003) to cadets during their early years in the program, cadre can foster individuals' motivation to persist

in ROTC. Overall, it would also be valuable for future researchers to explore potential discrepancies in the perceptions of cadets and cadre that exist with respect to cadre behavior. This process would help to identify whether it is cadre's actual behavior, cadets' perceptions thereof, or both that need to be changed to foster an optimal learning environment.

Lastly, cadre should also actively invest in the development of positive group interactions among cadets, which appeared to play a meaningful role in the learning environment. In the sport setting, Raabe et al. (2016) found that among collegiate student-athletes, coaches were able to foster need-fulfilling intrateam relationships by establishing formal and informal roles, nurturing positive competition (i.e., focused on task mastery rather than outcome), implementing peer coaches, and developing team goals. In turn, such activities established a sense of groupness (i.e., an understanding that members of the team share a common fate and are not just an aggregate of individuals) and cultivated the foundation for positive peer interactions among student-athletes. Accordingly, cadre should be encouraged to clearly establish the program's identity, purpose, rules, expectations, and goals, share those group elements with cadets as they enter the program, and then consistently revisit them throughout cadets' four years in ROTC. Ideally, this should be an interactive process that includes the ideas of cadets as much as possible. The development of groupness appears particularly valuable in light of the inherent competition that exists among cadets, which can distract from cadets' learning.

Limitations

Despite the value of the present findings, there are limitations in this study that should be addressed in future research. First and foremost, the current sample did not include any cadets in their first year in the program. Thus, while participants shared their experience of MSI and how their standing as a cadet influenced their perception of autonomy and relatedness, these accounts were based on their retrospective recollection and may have been shaped by the subsequent time in ROTC. Exploring the experiences of current freshman would likely contribute to the depth and accuracy of the findings. In addition, all participants self-identified as White/Caucasian and recruiting a more diverse sample can help to gain a more holistic understanding of social factors in ROTC.

Conclusion

Participants' accounts highlighted the importance of cadre and fellow cadets as social factors in ROTC. To cultivate an environment in ROTC that allows cadets to

function optimally, learn at a high level, and develop into competent, well-rounded leaders, it appears crucial to nurture optimal interactions and relationships with their leaders and peers. The present findings offer several practical recommendations that can help in this endeavor. ❧

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Notes

1. While other branches of the U.S. military also have ROTC programs, this study focused specifically on Army ROTC. Therefore, all further mentioning of the term ROTC will solely refer to the U.S. Army's commissioning source.
2. Due to issues with the psychometric properties of the measurement model, Raabe et al. (2020) did not evaluate participants' perceptions of relatedness.
3. The fourth author, Gilson, who was not directly involved in the data analysis, is a male PhD and faculty member in sport psychology who has previously conducted research with ROTC cadets.

Using Q-Methodology to Understand Student Learning Preferences

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Abstract

The purpose of this article is to demonstrate the utility of Q-Methodology in understanding student learning preferences. Q-Method is a research approach that uses a statement sorting exercise to understand a respondent's subjective and holistic view of a particular issue. In this case, students from the U.S. Army War College's Academic Year 2021 were asked to rank order a set of 28 statements related to the recent debate on professional military education (PME) reform that culminated in the release of the 2020 *Joint Chiefs of Staff Vision and Guidance for Professional Military Education and Talent Management*. The application of principal component analysis to this data revealed the emergence of three different perspectives related to the central topics of curriculum design and instructional preferences. Labeled here as *autonomous*, *classical*, and *adaptive learners*, an explanation of each view is provided and implications for PME are discussed. The Q-Method instrument can be adapted to address other PME-related issues, including toward developing assessment-informed educational experiences.

The 2018 *National Defense Strategy*'s observation that professional military education (PME) in the U.S. "has stagnated" (Office of the Secretary of Defense [OSD], 2018) ignited widespread debate on the future of PME. Had PME become "focused more on the accomplishment of mandatory credit at the expense of lethality and ingenuity" (OSD, 2018)? If so, what was to be done about it? If not, why had the man who led the development of the *National Defense Strategy*, Secretary of Defense James Mattis, arrived at the conclusion? For several years, civilian and military scholars alike have traded articles purporting to diagnose the true nature of the problems that plagued PME in order to offer preferred solutions. Everything from instructional method to curriculum content and design have been

examined. This debate culminated with the May 2020 publication of *The Joint Chiefs of Staff Vision and Guidance for Professional Military Education and Talent Management* (U.S. Joint Chiefs of Staff, 2020).

The reform debate presented the opportunity to demonstrate the applicability of Q-Method as an alternative to surveys in exploring student attitudes and preferences toward student learning experiences. Q-Method does this by using a statement-sorting exercise to understand a respondent's holistic and subjective view of a particular issue, what Q-Method refers to as a communication concourse (Brown, 1980; Stephenson, 1953). Rather than a focus on independent responses to separate survey questions, Q-method studies are focused on understanding the holistic points of view present in a community on a given issue area. The unit of analysis becomes the individual's view represented by the individual's preference rankings. How many points of view are there? Which individuals subscribe to which points of view? And which statements were the basis of the consensus in each point of view?

Q-Method offers a unique approach for understanding student learning preferences and expectations on questions like curriculum design and instructional approach, which can help inform a more assessment-based and tailorable PME experience. To demonstrate the approach, a Q-Method study involving 53 students was conducted at the U.S. Army War College from February to March 2021. The statements students were asked to sort were drawn from the PME debates that unfolded in the two years between the publication of the 2018 *National Defense Strategy* and the 2020 *Joint Staff Vision and Guidance*.

The resulting data indicate that when given the opportunity to offer their views on the central issues of curriculum design and instructional approaches, students prefer a variety of solutions that have been offered in recent PME debates. Nevertheless, student views on these topics generally coalesced around three primary perspectives: (1) the *autonomous learner*, which seeks much more curriculum flexibility and self-guided learning that involves opportunities to learn by doing; (2) the *classical learner*, which values a guided learning experience with a prescribed core curriculum and a learning model similar to a typical civilian graduate program; and (3) the *adaptive learner*, which in many ways represents a middle ground between the pre-

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vious two groups, expressing the desire for both structure and choice when it comes to curricula and self-authored learning experiences. It was the adaptive learner's perspective that explained the largest amount of variance in the data and had the most students associated with it.

After a brief review of some of the recent PME reform arguments, a more detailed explanation of the Q-Method instrument is provided before turning to the findings and some of the potential limitations with a study like this. Whatever the reader's view on the PME debates themselves, the author's chief goal is to demonstrate the utility of Q-Method as a means of lending structure and rigor to the study of subjectivity. It is a method that might be employed to understand the range of perspectives on any number of topics in PME or its constituent disciplinary fields.

Debating PME Reform

Mattis's call to reinvigorate PME sparked many responses about how to achieve that goal (OSD, 2018). This debate generally centered on two related questions regarding educational content and instructional methods. Is PME focusing on the wrong material, or is it delivering that material in ways that do not meet the needs of military professionals?

The curriculum content debate focused on two related concerns. The first had to do with the relative priority that should be placed on military-related topics as compared to broader theoretical or policy-related concerns found in a civilian security studies classroom. The second issue is the amount of freedom and flexibility students should be afforded to chart their own unique educational experiences. Thornhill (2018) has taken up the first issue by arguing that the education of professional military leaders had grown too similar to that which might be found in civilian security studies programs. Instead, Thornhill contends that these PME programs should focus on providing students with the practical skills they will need to become future senior commanders and higher headquarters staff officers. Mittelstadt (2018) and Morgan-Owen (2018) argue, conversely, that the complex security and decision-making environment of the future calls for precisely the kind of analytic tools and problem-solving approaches civilian graduate education is best prepared to deliver. Mittelstadt (2018) sums up this prescription with the call to put more college in the war colleges.

As to the second issue of student choice and curriculum flexibility, the question has centered on how much of a standard curriculum should be common to all and how much would be left to the students to chart a tailored program of study. Those arguing for a common core contend that effective literacy at the highest levels of foreign and security policy requires exposure to the widely shared language, concepts, ideas, and theories that define discussion and debate in this epistemic community

(Biddle, 2020). This suggests the need to expose all of those making the transition to this strategic level to a common body of knowledge curated by experienced practitioners and academics. Conversely, others have argued that a more flexible curriculum would allow students the space for innovation and the ability to focus on more real-world problems. In this approach, Duncan and Yang (2018) contend the PME institutions would focus students more on the need for creative thinking about future problems rather than indoctrination into a security studies canon.

In addition to this debate over curriculum content, there is a debate over the instructional approaches best suited for PME education. This discussion is characterized by a continuum of views centered on the degree to which PME learning is best achieved as a student-led vice an instructor-led endeavor. The standard model of the PME is a seminar classroom in which instructor-facilitated discussion and dialogue are the primary means of learning (Leonard, 1991). In a varied version of this approach, Gudmundsson (2018) has argued that historical case studies provide more effective bases for classroom dialogues and discussions because the instructional strategy allows military professionals to see how key concepts were considered and employed by leaders dealing with actual challenges in complex environments.

In a somewhat more significant departure from the seminar dialogue model, Lacey (2016) has argued that wargaming, whereby students are put in complex problem-filled environments from which they must reason their way to defensible decisions, is an even more effective means of instruction for military professionals. Perez (2018) has taken a similar position on the issue of how to develop effective strategists and security policy leaders, arguing that future security leaders will not get better at developing effective policies and strategies unless they are able to practice it in their educational experiences. For Perez (2018) and others, this problem-based learning approach to “strategy as performance” holds the most hope because it turns adult learners into the authors of their own learning experience (Hennessey, 2019, 2020).

Such calls for increased use of problem-based learning approaches are also in line with the Joint Staff’s *Vision and Guidance*, which directs the incorporation of “active and experiential learning to develop the practical and critical-thinking skills our warfighters require” (U.S. Joint Chiefs of Staff, 2020, p. 6). This can be even more important for adult learners who, according to Knowles (1984, 1988), prefer more autonomy in the learning process to explore approaches commensurate with their learning preferences. Similarly, Kolb and Kolb (2011) argue that the education, career choice, and jobs one has held can heavily impact one’s approach to learning. This results from the pressure of learning under specific career-related environmental demands, a point stressed in the Joint Staff’s *Vision and Guidance* (U.S. Joint Chiefs of Staff, 2020).

Thus, the above literature suggests that understanding the learning preferences of the adult learners in question can be a useful first step in evaluating the various approaches championed in the PME curriculum and instructional approach debates.

This is not to suggest that military professionals share a similar “learning style” that is stable over time. The literature on the validity of coherent learning styles is mixed, and the relationship between learning styles and educational outcomes is equally uncertain (Donggun & Carr, 2017; Hickox, 1995; Willingham et al., 2015). However, as the *Army People Strategy* makes clear (Grinston et al., 2019), it can be important to understand the talents, experiences, and preferences of adult military learners in order to design effective instructional approaches. This is where Q-Methodology can offer an alternative approach to traditional survey and interview instruments.

Methodology

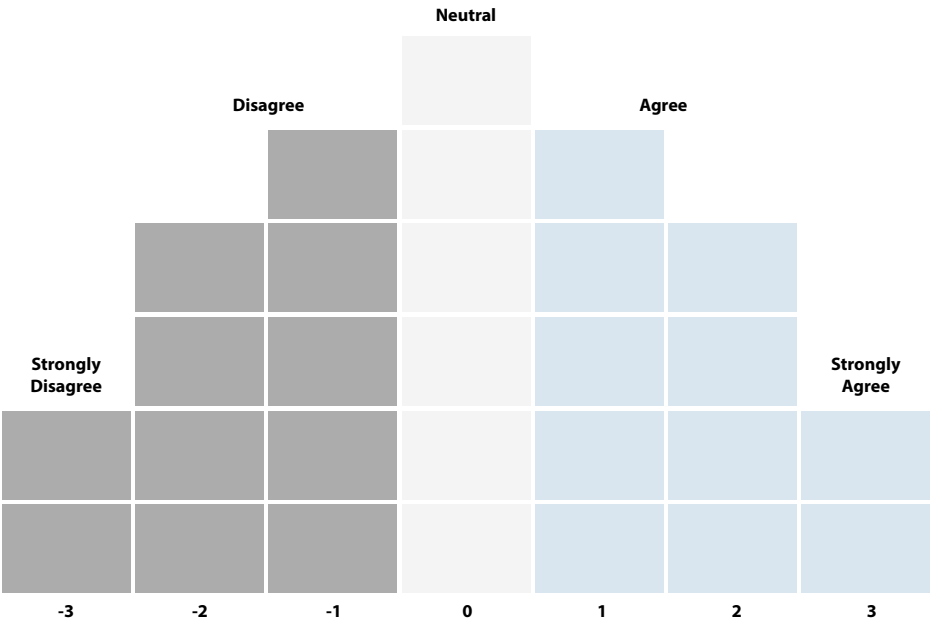
Q-Method

Q-Method was developed by the Oxford physicist William Stephenson (1953) as a method for the scientific study of subjectivity in the social and psychological sciences. It involves a Q-sample of statements taken from an issue area. These statements are collectively referred to as the communication concourse and represent the range of views that have been advanced on the topic. Respondents are asked to first sort these statements into three groups: agree, neutral, and disagree. After which, respondents further sort the statements from strongly agree to strongly disagree according to a normal distribution (see Figure). This sorting represents the respondents’ perspective on the variety of views measured, not independently like typical surveys, but against other views on the topic. This required prioritization forces respondents to make choices about what they value and offers a holistic account of the respondents’ views on the defined body of discussion and debate. Either factor analysis or principal component analysis is applied to the set of respondents’ sorts to determine where there are clusters of similarities among the individual perspectives. The result is a set of factors or composite sorts that are emergent on a particular issue, in this case student perspectives on making learning in PME more effective. Individual sorts or responses are evaluated for the degree to which they are similar to each of these composite perspectives to a given level of significance. In this way, Q-Method offers a quantitative method for developing a grounded understanding of the views held about an issue.

The Q-Sample and the Person Sample

To carry out a Q-Study of this sort, one needs to identify a Q-Concourse of statements and a sample of respondents best positioned to provide insights on the issue

Figure
Example Q-Sort Configuration for 28 Statements



at hand. Statements gathered for this study (see Table 1) are drawn from the public debates on PME reform that have emerged since the 2018 call for PME reform from the secretary of defense. The debates over curriculum design and instructional approaches was the focus of the statements used in this study.

Students in the U.S. Army War College Academic Year (AY) 2021 Europe, South Asia, and Americas regional studies programs were invited to complete the exercise online using the “Q-Method Software” service. The 155 students in these three regional studies courses represent about 40% of the AY21 class, and of the 155 students who were invited to participate in the study, 53 completed the exercise (34% response rate or 14.5% of the resident class). Of these 53 respondents, 34 were U.S. military, 13 were international fellows, and six were U.S. civilians.

Findings

The Q-Sorts of all 53 respondents were correlated using principal components analysis, and the emerging factors were rotated using varimax criteria. Various numbers of factors were considered for analysis. The three-factor solution yielded

the best result. Adding additional factors picked up fewer and fewer additional students with a significant loading, and the first three factors cumulatively explained 36.8% of the total variance in the data. Most importantly, however, reviewing the composite sorts of factors beyond factor three revealed few new learning preference insights, only finer variations on the first three ideal types. Each of these factors are summarized below, starting with the third factor and counting down to the first factor, which has the highest number of significant loadings and explains the most variance in the data.

Factor #3: The Autonomous Learner

Nine of the students in the sample loaded significantly on this factor at the .05 significance level, and this factor's composite sort explained 7.3% of the total variance in the data. Starting with the autonomous learner provides useful context for understanding the other two learning perspectives, as these learners desire the most independence to chart their own educational paths and are most willing to value a student-directed approach to learning. See Tables 1 and 2 for how each statement was prioritized in this factor's composite sort.

The autonomous learners favored statements that gave them more control over their course selection and learning experience. They were the most willing to agree that "senior service college students should be able to craft their own program of study" (statement 12). They were disapproving of statements like "the War College needs more college and less war" (statement 15) or the War College "should take further steps toward emulating higher education" (statement 17). They were, however, not ready to agree that this flexibility might be used to "collaborate on real world problems with organizations and researchers outside of the War College" (statement 11). This suggests a desire to maintain freedom to pursue their own interests rather than remaining subject to the research requirements of others.

Autonomous learners took a similar independent approach to their preferences for instructional approaches. This group was the most interested in applied, problem-based learning approaches in which students had more control over the learning process. Autonomous learners agreed more than the other groups with statements like "it would be better for students to take more ownership of learning by doing" (statement 10) or "to get better at developing effective security policies and strategies one actually needs to practice developing policy and strategy" (statement 27). This translated into the view that longer papers were not useful for strategic mindedness (statement 26), and exams do not "force one to absorb key program themes and ideas" (statement 20). Instead, this group agreed that it was "ultimately the student's responsibility to understand and draw meaning from the concepts and theories in the course" (statement 2).

Table 1
Instructional Approach Questions

Question Number	Question	Composite Sort		
		#1 Adaptive	#2 Classical	#3 Autonomous
1	As the expert on the topic in the room, it's the instructor's role to ensure everyone grasps the key concepts, theories, themes, no matter what instructional method is employed	0	1	-1
2	Because everyone's experiences are unique, it is ultimately the student's responsibility to understand and draw meaning from the concepts or theories in the course, regardless of instructional method	-1	-1	1
3	The use of visual material in the form of PowerPoint slides, for instance, is an incredibly useful way to reinforce the points made in class	0	1	-2
4	Visual aids like PowerPoint often get in the way of deeper discussion and dialogue	-2	-1	1
5	Interactive exercises, especially those that involve technology, are useful for understanding complex concepts and ideas better	0	0	0
6	Hearing a talk by a recognized expert on a topic is an excellent way to complement the reading material and encourage higher order thinking and understanding of the topic	3	2	3

Table 1
Instructional Approach Questions (continued)

Question Number	Question	Composite Sort		
		#1 Adaptive	#2 Classical	#3 Autonomous
7	The method of seminar discussion and dialogue is an effective means of facilitating learning by encouraging a shared examination of the key themes and concepts	2	3	2
8	Working one's way through historical cases and asking "what would I do" is a more effective means of coming to terms with concepts and theories of war and strategy	-1	2	-1
9	More war-gaming and simulations on important political, strategic, and operational dilemmas would be more effective because students learn through first-person decision-making	1	-1	-1
10	Rather than seminar discussion or lectures, it would be better for students to take more ownership of learning by doing more work in teams to research and develop potential solutions to real world problems	-2	-3	1
19	The deepest learning occurs when one is doing one's own research, wrestling with the problem, and writing up the results of the effort	-1	0	0

Table 1*Instructional Approach Questions (continued)*

Question Number	Question	Composite Sort		
		#1 Adaptive	#2 Classical	#3 Autonomous
20	Preparing for an examination isn't necessarily fun, but it does force one to absorb key program themes and ideas	2	-1	-3
21	Developing an appreciation for the strategic environment requires hearing from and getting direction from experts on the relevant topics	1	2	2
22	Developing an appreciation for the strategic environment requires personal research and reading on the complexity of issues involved	1	0	0
23	Developing an appreciation for the strategic environment is best done in debate with colleagues where assumptions can be tested and oversights pointed out	3	1	2
24	To truly understand a complex concept or theory, one has to apply it and see how it works	1	-3	0
25	Short point papers are useful because they force the writer to condense complex ideas and themes into digestible and actionable recommendations	0	1	3

Table 1

Instructional Approach Questions (continued)

Question Number	Question	Composite Sort		
		#1 Adaptive	#2 Classical	#3 Autonomous
26	Short point papers may be the kind of work done by staff officers, but they do not provide the space for in-depth analysis required to demonstrate strategic mindedness	-2	0	-3
27	To get better at developing effective security policies and strategies one actually needs to practice developing policy and strategy; reading and talking about it will only get one so far	1	-2	1

Despite these differences with the other perspectives, there was a significant amount of agreement between autonomous learners and the other two groups. Perhaps for different reasons than the others, this group placed a high degree of value on “hearing from a recognized expert on a topic” (statement 6) and engaging in seminar discussion and debate as a useful means of exploring key themes and testing assumptions (statements 7 and 23). Like the other perspectives, autonomous learners also agreed that “regional and local knowledge of political, cultural, and historical factors are critical to crafting good security policy” (statement 28).

Factor #2: The Classical Learner

Thirteen of the students in the sample loaded significantly on this factor at the .05 significance level, and this factor’s composite sort explained 8.3% of the total variance in the data. Though still sharing many important characteristics with the other groups, classical learners were the most distinct from autonomous learners on several key issues. More than the other two perspectives, the classical learners value a traditional graduate school model, centered on the instructor-led, or at

least facilitated, instruction and a structured curriculum. The term classical learners was chosen for the greater emphasis this group places on the role of the instructor and for the desire expressed in this group to look toward civilian higher education as a model for senior PME. See Tables 1 and 2 for how each statement was prioritized in this factor's composite sort.

The classical learners favored statements that highlighted the importance of the instructor in the learning experience. This included agreement that hearing from experts was a great way to compliment the reading and gain an appreciation for the strategic environment (statements 6 and 21), which were both sentiments also favored by the other two perspectives, and "it's the instructor's role to ensure everyone grasps the key concepts, theories, and themes, no matter what instructional method is employed" (statement 1), which was a statement not favored by the other two perspectives. This view extended to curriculum choice where classical learners agreed that "faculty should ensure every student is exposed to the broadly studied core security and defense concepts" (statement 13).

Classical learners not only emphasized the role of the instructor in learning, but they also looked toward civilian higher education as a model for senior PME. This was the issue that distinguished this group the most from the other two, as classical learners strongly agreed that "if the War College is to achieve its educational aims, it ought to take further steps toward emulating higher education institutions" (statement 17), a sentiment that was strongly unfavorable for the other two groups.

Nevertheless, there were limits to the classical learners' willingness to conflate senior PME and civilian education, as they joined the other two groups in strongly rejecting the statement that the "War College needs more college and less war to prepare the students for the complexity of the strategic level" (statement 15). Classical learners also were not wholly ready to absolve themselves from a more attenuated version of the problem-based learning model, expressing a strong interest in the historical case study approach and agreeing that "working one's way through historical cases and asking 'what would I do' is a more effective means of coming to terms with concepts and theories of war and strategy" (statement 8).

Factor #1: The Adaptive Learner

Sixteen of the students in the sample loaded significantly on this factor at the .05 significance level, and this factor's composite sort explained 21.6% of the total variance in the data. This made it the factor that explained the largest amount of variance and had the highest number of significant sorts. This perspective is presented last because it in many ways represents middle ground between some of the most distinguishing statements of the previous two groups, but also has some of its own unique characteristics. See Tables 1 and 2 for how each statement was prioritized in this factor's composite sort.

Adaptive learners agreed with autonomous learners on the value of a variety of student-centered, problem-based learning approaches. This group agreed that “to truly understand a complex concept or theory, one has to apply it” (statement 24), and that “to get better at developing effective security policies one actually needs to practice developing policy and strategy; reading and talking about an issue only gets one so far” (statement 27). In one area, the adaptive learners expressed a desire for even more independence than the autonomous group, preferring the idea of developing an appreciation of the strategic environment through “personal research and reading on the complexity of issues involved” (statement 22), rather than the approach favored by autonomous learners to “take more ownership of learning by doing more research in teams to research and develop potential solutions to real world problems” (statement 10).

Adaptive learners also sided with autonomous learners on the need for curriculum flexibility and choice. However, adaptive learners were dismissive of the autonomous learners’ view that this flexibility was because “who else knows more about one’s own educational needs than the student” (statement 12). Instead, adaptive learners agreed that one benefit of a flexible curriculum was the ability “to innovate and collaborate on real world problems with organizations and researchers outside of the institution” (statement 11).

Despite these points of difference, this group was similar to the other two in the value it placed on seminar interaction and hearing from experts on complex topics. It also joins the other two in dismissing the call for more college and less war in the War College (statement 15), breaking also with classical learners on the idea that the War College ought to seek to emulate civilian high education institutions (statement 17).

Finally, there were also some unique views in the adaptive learners’ perspective. These learners embraced the value of test preparation over the shorter policy papers preferred by the other two groups (statement 20). Adaptive learners embraced wargaming over the historical case study approach favored by classical learners, which can be compared to the autonomous learners’ inclination to reject both of these learning approaches.

Analysis

With this data organized into groups, what is one to make of these PME students’ viewpoints on these debates? First, there is clear support from two of the perspectives for moving toward more curriculum flexibility and more problem-based instructional approaches. However, the classical learners model indicates that there is still a constituency for more curriculum certainty and planned programmatic structure. There are similar mixed results when it comes to instructional approaches. None of the groups were ready to dismiss the value of the traditional expert lecture or dialogue

Table 2*Curriculum Design Questions*

Question Number	Question	Composite Sort		
		#1 Adaptive	#2 Classical	#3 Autonomous
11	The War College should offer a more flexible curriculum to allow students more time to innovate and collaborate on real world problems with organizations and researchers outside of the institution	2	0	-1
12	As emerging senior leaders, Senior Service College students should be able to craft their own program of study, because no one else knows more about one's own educational needs than the student.	-1	-2	1
13	Faculty should ensure every student is exposed to the broadly studied core security and defense concepts needed for strategic and operational literacy and future success	0	1	0
14	The curriculum should be blended more between online and in-person classes as well as synchronous and asynchronous instruction	-2	0	-2
15	The War College needs more college and less war to prepare students for the complexity of the strategic level security and decision-making environment	-3	-2	-1

Table 2

Curriculum Design Questions (continued)

Question Number	Questions	Composite Sort		
		#1 Adaptive	#2 Classical	#3 Autonomous
16	The War College is focused too much on the accomplishment of mandatory academic credit at the expense of lethality and ingenuity	0	-2	-2
17	If the War College is to achieve its educational aims, it ought to take further steps toward emulating higher educational institutions	-3	2	-2
18	The War College should focus on quality staff officer education that is more relevant to understanding the demands placed on top defense leaders	-1	-1	0
28	Regional and local knowledge of political, cultural, and historical factors are critical to crafting good security policy and strategy	2	3	2

and debate-based seminar learning, even as adaptive and autonomous learners were especially keen to move toward more problem-based learning approaches (see Table 2). In short, the move toward greater curriculum flexibility and more problem-based instruction should continue to involve a variety of instructional approaches and preserve avenues for more structure for the students preferring that approach.

This insight can also be found in the unfolding PME debate, which suggests that problem-based learning approaches without an appropriate structure and founda-

tion could confuse more than they clarify. In his description of a problem-based approach to learning, which Perez (2018) refers to as “strategy as performance,” Perez argues that educators must first “impart to their students the skill of researching and ‘seeing’ the strategic environment” before students can then cultivate and hone those skills in a performative way. For Perez, this includes exposure to habits of research in fields like history and the social sciences, but it also includes the exposition of visualization exercises like the practice of graphically depicting complex causal relationships. This all requires early, intensive instructor involvement.

When it comes to the debate over curriculum content, this also is not a zero-sum game. First, if curricula are going to be flexible and tailorable, one might recognize that students will prefer varying levels of structure. Options that include more pre-charted paths may prove especially interesting for learners who relate more to the classical model. Similarly, even for those seeking a more customized approach, established track options may prove useful. With such changes, the role of the faculty advisor in student decision-making will become more, not less, important. More curriculum flexibility, like more student-centered approaches to learning, may not necessarily signal less structure. This flexibility does require a different kind of structure to support student preferences.


Limitations

Before closing, it is also useful to point out a few limitations to a Q-Method investigation of this sort. First, this study focused on Army War College students at the senior PME level. It is not clear if mid-career PME students would respond similarly. For instance, the preferences for curriculum flexibility and problem-based approaches to learning in two of the factors may have been less pronounced in more junior PME institutions where students have less military and academic experience. A similar Q-study in such institutions would be needed to compare the findings. The same is true for the six civilians and 13 international fellows in the sample. One of the U.S. civilians loaded significantly on the classical learners’ factor, the remainder had no significant loadings. The international fellows, by contrast, resembled their U.S. counterparts in the breakdown, with four fellows loading significantly on the adaptive learner factor, three for on the classical learner factor, and one for autonomous learner. Q-Method PME studies in their home institutions and countries could offer some useful comparisons.

Second, the goal of Q-Methodology is not to use a smaller sample to estimate the proportion of individuals in a larger population who hold one view or the other, as is the case with traditional survey instruments. Instead, with a reasonably representative small sample, Q-Method purports to reveal the range of holistic perspectives that exist on an issue in the broader community. This difference is important. This means that, while there is no reason to believe that the proportion of those loading significantly on these three factors would change if the remainder of the students in

the AY21 class completed the exercise, generalization to that conclusion is not the goal of the method. Third, from a set of Q-Method responses alone, it is difficult to deduce why respondents made the ordering decisions they did. An important limitation of this particular study is that it did not include follow-on interviews with the respondents. Such interviews can be valuable in determining the rational or motivations behind the expressed preferences and help the researcher understand how the respondent is interpreting each of the statements. Where time and resources permit it, such interviews are preferred.

Conclusion

In summary, this study indicates that there are important learning preference similarities in this group of Army War College students, but there are also important differences in preferences and expectations that might be considered in curriculum design and instructional decision-making. A Q-Method study of the sort presented here may prove useful for other institutions confronting such questions. Though it is the Department of Defense, rather than the students themselves that are the primary stakeholders in the department's PME institutions, understanding student attitudes and preferences toward learning remain important for achieving the desired learning outcomes. At a minimum, instructors may want to address student preferences and expectations that contrast with the planned approach. As PME educator Hamilton (2019) has observed, "Military learners (like other adult students) carry their ideas, concerns, and experiences to class with them. Faculty can ignore this dynamic but often at the cost of 'losing' students and leaving learning outcomes unfulfilled" (p. 3). 

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Metacognitive Reflection

The Framework for Facilitating Reflective Practice During the Coast Guard Midgrade Officer and Civilian Transition Course

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Abstract

Advocates for reflective practice abound. However, there is scant detail in the literature that provides explicit strategies that may help professional military education programs teach and develop reflective practice skills. This article endeavors to provide the reader a transferable and customizable framework containing the explicit strategies and structures used by the U.S. Coast Guard to facilitate metacognitive reflective practice and as a means of teaching and inspiring Coast Guard officers and civilians during the Midgrade Officer and Civilian Transition Course.

Metacognition was initially described by Flavell (1979) as “knowledge and cognition about cognitive phenomena” (p. 906). Today, it is commonly described as “cognition about cognition” or intentionally thinking about our thinking to improve it. The role of metacognition as a skill set and a teaching tool for students at senior-level Marine Corps and Air Force professional military education (PME) schools is explored by Khachadoorian et al. (2020). Although their article offers several techniques for planning, enacting, and evaluating course content, it does not address the role played by reflection as a metacognitive strategy.

Reflection is frequently a component of PME programs as it is a critical element of adult education concepts ranging from Kolb’s experiential learning cycle to Schon’s reflective practitioner (Bourner, 2003). Critically, many programs, despite a reputation for rigor and intensity, reserve only a fraction of the time necessary

for reflection (Ben-Hur et al., 2012). Concurrently, it is assumed that students understand what reflective practice is and how it is accomplished. Students are simply directed to “reflect,” and little to no time is spent developing the necessary qualities or specific skills for sound reflection (Fiddler & Marienau, 2008). Furthermore, while there is ample evidence illustrating the value of reflective practice, there is little discussion about how leaders can help students develop and apply reflective practice skills (Russell, 2005).

This article provides a transferrable and customizable framework for facilitating the underlying structures or scaffolding necessary for metacognitive reflection across services in PME or higher education activities. The authors’ interest in metacognitive reflective practice stems from their experiences of teaching Coast Guard officers and equivalent civil service members during their attendance at the Midgrade Officer and Civilian Transition Course-1 (MOCTC-1) at the U.S. Coast Guard’s Leadership Development Center, located in New London, Connecticut. The MOCTC-1 is a 16-week intermediate-level leadership development program designed to draw upon prior learning and life experiences to enhance students’ critical thinking and leadership capacity. The development of mental agility and intellectual curiosity required to meet this outcome is achieved by explicitly introducing reflective practice skills and exercising them during daily guided metacognitive reflection sessions.

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Reflection and Learning

Reflection can mean many different things, but the concept of reflective practice stems from Dewey's (1933) foundational works on reflective thinking for growth. This concept continues to evolve with the addition of concepts such as Schon's (1983) reflective practitioner engaging in "reflection-on-action" and "reflection-in-action." There are at least four different streams of reflection: content-based reflection—linking experiences to learning objectives and competencies (Hatcher & Bringle, 1997), metacognitive reflection—increasing awareness of and control over one's thinking behavior (Fogarty, 1994), self-authorship reflection—development of one's identity and internal schema (Magolda, 2008), and transformative reflection—the development of independent thinking (Mezirow, 1997).

Most learning programs default to a content-based reflection because their primary outcome is to have students consider past experiences as they relate to particular-learning objectives or competencies (Grossman, 2009). Both content-based and metacognitive reflection is useful in a wide range of disciplines. However, because our focus is the deep learning required for participants to monitor and self-regulate their cognitive processes and improve their leadership, we have chosen to focus on metacognitive reflection.

Metacognitive reflection has two components: intentionally thinking about "what we know" and "how we know," and self-regulation. Self-regulation is defined as managing how we go about leading ourselves and others, the ability to recognize and supervise our thinking processes, and the potential to perceive leadership in new ways (Day et al., 2009). In other words, we see metacognitive reflection as a form of practice. It is a combination of retrieval and elaboration that can invoke imagery and mental rehearsal for leading. The barriers to effective metacognitive reflection are the same as for a content-based reflection but possess an even lower likelihood of actual accomplishment due to the nature of its intentionality. Metacognition requires intentionality as it involves monitoring or awareness of our learning, thinking, and leading processes. It occurs during an experience. This differs from content-based reflection (which some literature argues isn't reflective at all), which occurs after an action. One example is after action reviews.

Few programs have effectively structured or integrated reflective practices to create learning interventions (Astleitner, 2002). However, learning is like breathing; it involves taking in, processing, and expressing what is learned (Kolb & Kolb, 2005). Further, one may be exposed to an event but not be ready to absorb it, or students may be exposed to the same event and formulate entirely different lessons from the experience (Janson, 2008; Olivares, 2011). Nevertheless, many experiences quickly fade from memory, regardless of the nature of the intervention. Instead, what causes a lesson to "stick" is what one makes of the experience (Day et al., 2009). Incorporating reflective practice is essential to create deep, active learning and provoke the

self-examination needed for students to take an active part in their transformative development (Ryan & Ryan, 2011).

Philosophy of Teaching—Metacognitive Reflection

We believe that people do not truly learn something unless they discover it themselves. MOCTC-1 firmly recognizes that students should understand the value of reflective learning and be explicitly trained in the use of metacognitive strategies. As such, our teaching philosophies are founded on constructivism, using socially constructed learning.

Learning can quickly fade from memory because people tend to find and inhabit comfort zones and assimilate new information within their current framework of thinking (Valcea et al., 2011). To counteract this tendency, and to encourage inquiry and reflective thinking, we construct learning environments that place learners in what Dewey (1933) described as a mild state of perplexity, confusion, or doubt.

Praxis in Teaching Metacognitive Reflection

The daily guided reflection sessions, each 30-60 minutes, were prominently listed in the course syllabus and schedule and arranged to provide a series of well-coordinated activities informed by nine psychological principles (see Table 1).

The students were asked to discuss the topic in relation to past and current experiences and how these may influence their thinking, decision-making, and leading. This process is designed to assist them in adequately reframing and analyzing arguments, recognizing their logical fallacies, discriminating between their warranted and unwarranted positions, identifying their underlying assumptions, and building skills in scientific and socialized analytical reasoning.

Students were provided a packet of preparatory materials to help with their comprehension of reflection dimensions and psychological principles. They were expected to have read the material before class. During the initial session, they were briefed on the structure of the sessions, the content of the preparatory material packet, and the rationale for how the guided reflection sessions would be used to unlock their capacity to monitor and self-regulate their cognitive processes.

In the foundational session, the facilitator modeled reflective practice by thinking aloud so that students could follow metacognitive thinking processes and think and talk about their thinking. The daily sessions continued with a high degree of supervision, but were discursive and exploratory. Students left to their own devices tend to focus on their individual actions rather than those of the social group

(Stacey, 2012) and therefore, conducting reflection as an individual activity was deemphasized. Instead, they were encouraged to interact with others and recognize themes emerging in their dialogue to engage in a sociocognitive learning process (Ryan & Ryan, 2011). As a student talked through the topic, the other students listened and asked questions to clarify thinking and statements.

The facilitator was mindful of the students’ first inclination to move immediately to planning and problem-solving, and therefore, sought to gently nudge the exploratory narrative to explore what students have done in the past in order to develop more in-depth insight into how they were thinking, what they have been doing, and why they have been doing it. Increasingly, as the students learned what was and was not reflective, the facilitator reduced his or her own presence and allowed the participants to begin probing, challenging, and even interrogating each other’s positions.

Table 1
Frameworks Psychological Principles

Introduction to Metacognitive Reflection & Readiness, and Reflexivity Framework
Horizontal vs. Vertical Development
Constructive Development
Performance vs. Learning Orientation
First and Second-Order Reflection
Leadership Development Through Cascading Reflection
Using Systems Thinking in Reflection— The Metaphors of The Galapagos Islands and Costa Rica
Maladaptive and Adaptive Reflections

Guided Reflection Framework

What follows is a transferrable and customizable framework for facilitating the underlying structures or scaffolding necessary for metacognitive reflection across services in PME or higher education activities—each titled by its psychological element. An initial session was conducted to introduce the framework and foundational elements. Subsequent sessions were held daily to introduce another psychological aspect. The facilitator used the reflexivity framework and other reflective questions to guide

dialogue as a class or within small groups. The sequence was deliberate, but it was often rearranged to respond to the students' emergent conversations and needs.

Foundational Session—Readiness

Facilitation. The topics of reflective learning, reflexive framework, and readiness are traditionally introduced during the initial guided reflection session. We recognize that desired change is at the heart of individual development (Boyatzis, 2008); therefore, whether the MOCTC experience contributes to developmental growth largely depends on individual student readiness (Avolio & Hannah, 2008). This session addresses the concern that a learner may want to be a leader, but is not ready to invest the personal resources necessary to achieve the required emotional, social, and cognitive competency (Boyatzis, 2008). This view of developmental readiness closely parallels the success of therapy in the clinical literature, which suggests that a patient's readiness to undergo therapy is perhaps of greater importance than the therapist or therapeutic technique (Avolio & Hannah, 2008). In this way, the learner must be receptive to new or conflicting information that may serve as a "tipping point" event (Ibarra, 1999), or a catalyst for change.

The concept of readiness guides each student to accept his or her investment as an active participant. The vertical development element provides clarity to the role of reflection in learning, and the reflexivity framework is the primary model students are coached to use throughout the daily sessions to begin to engage in second-order reflection.

Readiness is enhanced through two approaches. First, influenced by Grossman's work in 2009, we "set the hook" on the need for self-awareness of our thinking process by introducing a constant struggle between thinking and feeling. We did so by asking what the difference is between thinking and feeling. The consequent discussion resulted in the understanding that feelings are sensory. We then asked the students to reflect upon times in their lives when they had become emotionally hijacked and then asked how often they had made decisions or acted spontaneously based upon feelings. The point was to facilitate recognition of the constant tension between emotions and logic and the need to identify when emotions lead the charge. When we can reconcile our feelings with our logic and postpone action until there is alignment, we will make better decisions. Second, to draw out self-awareness of individual readiness, we asked the students to consider four questions designed to reveal personal readiness or coachability from their quantitative scoring on the Leadership Practices Inventory 360 feedback.

Guided Reflective Questions. What is one's first reaction when things go wrong? How does one respond? What emotion might influence thinking? What is one's second reaction? What feeling might be affecting individual thinking? What would happen if one went to one's second response first?

Reflexivity Framework

Facilitation. To guide and generate metacognitive reflective practices, students are led by using our reflexivity model, an adapted version of the well-known reflection model developed by Rolfe (2014): What? So What? and Now What? Our reflexivity model is modified to provide 2nd Order reflection, with the additional, intentional, and essential question: What role have I played in this? After this element is introduced, it is utilized as the foundational model to frame all subsequent daily guided reflection sessions.

Abridged Version of the Preparatory Material. *What?* This is a “balcony view” of the situation: What do I see, hear, feel, and sense? What message(s) are there? Am I paying attention?

So What? What is the importance to others, my unit, myself? Conjecture the “what ifs.” Look inside myself, and ask how the feedback might be different if my behaviors were different.

Now What? What actions will I take as a result? How will I do this? When will I have done this?

What role have/did I play in this? This additional self-question is an essential and intentional inquiry into the social processes of self-knowing and of the social processes in which we find ourselves. It is noticing and thinking about participation with others in the accomplishment of joint tasks. What is being noticed and thought about? How am I thinking about my engagement in the social processes of communication, power relations, and ideology? It involves asking who we are, what we are doing together, why we are doing it, and how we are thinking about these questions. The focus is on thinking about how we are thinking.

Guided Reflective Questions. After its introduction, this model is practiced by the facilitator guiding the class by using it to reflect on a shared experience from the previous day.

Horizontal Versus Vertical Development

Facilitation. To unlock mindsets, we begin with a “balcony view” of vertical development, describing Petrie’s (2015) work on vertical versus horizontal development. Establishing this concept is critical to creating the foundation for students’ understanding of cognitive growth and the intrinsic motivation for active participation in reflective learning activities. This is the first step in building the “bridge” that Grossman (2009) describes as essential for students to create a mental place to stand apart from their current thinking.

Abridged Version of the Preparatory Material. Horizontal development is an emphasis on “what you think.” It is the transfer of knowledge or skills from an expert

to a novice. Vertical development emphasizes “how you think.” It is growth in the form rather than the content of understanding and must be earned.

Traditionally, leadership development programs have focused mainly on what leaders need to learn and how to provide them exactly that. However, the limiting factor is not the content (a leader’s knowledge), but instead, it is the “cup.” In other words, traditional training pours content into the cup; vertical learning changes the capacity of the cup (Petrie, 2015). In formulating leader development, the right question is not “what do we need to teach them?” Instead, we must ask, “how do we help leaders learn?” (Hackman & Wageman, 2007)

Guided Reflective Questions. Leading others requires the expenditure of enormous amounts of cognitive, emotional, and physical energy. We ask the students: “Are you willing to exert the necessary cognitive, emotional, and physical energies to become the leader you would like to be?”

Constructive Development

Facilitation. Although each stage is stable, each is also malleable, and developmental movement to the next stage may occur in response to external stimuli (Kegan, 1982). Each transformation, evolving from simple to a more sophisticated sense of individual awareness and meaning-making, is called a “developmental movement” (McCauley et al., 2006). Our program’s central goal is for our students to become aware of their meaning-making system in their present stage; they can think critically about it, and what is subjective becomes objective; the individual is then able to reflect and shift to another stage (Story, 2011).

Abridged Version of the Preparatory Material. Constructive development theory holds that human development occurs in five measurable, sequential, and hierarchical stages of “orders of consciousness.” In other words, people can progress from a simplistic to a more sophisticated understanding (Strang & Kuhnert, 2009). Stage 1 is concerned with childhood and adolescence; it does not apply to adult development. In Stage 2, the leader sees the world as black and white, win or lose. They are not likely to consider others’ perspectives and view others as simply impediments to their motivations. Ten percent of leaders in organizations today operate at this level (Eigel, 1998; Kegan, 1994). Stage 3 involves movement from narcissism to a consistent demonstration of empathy and the capacity to see past one’s self-interest and understand a context other than one’s own. The opinions of others strongly influence this person. The person’s sense of self is socially determined. What they think and what they say are equally influenced by what they believe others want to hear. Approximately 58-78% of the adult population is at this development level (Kegan & Lahey, 2016).

Stage 4 is the emergence of self-construct and internal values. A person has developed his or her inner compass and can understand his or her values and those of oth-

ers. Outside sources are only one factor in his or her decision-making. This person has an internal voice and can take a stand and set limits according to that inner voice. Research suggests that Stage 4 is where effective leadership begins. Stage 5 occurs when individuals become aware of their ideological self-systems and their limitations. Thus, they can recognize and regard the validity of multiple perspectives simultaneously and compare them, wary of any single ideology (Kegan & Lahey, 2016; Story, 2011). One to eight percent of the adult population is at this level of consciousness.

Guided Reflective Questions. While formal individual subject-object interviews to determine student stage development are well beyond the course's scope, self-diagnostic questions revealing Levels 3 and 4 were provided for students to reflect on critically. See Table 2 for some self-diagnostic statements to generate dialogue with students.

Maladaptive and Adaptive Reflections

Facilitation. Reflexivity can guide and motivate members to systematically question their practices, learn about their assumptions (Staber & Sydow, 2002), enable

Table 2
Constructive Development

Level 3 (I am Subject)
My ideas, norms, and beliefs (what I know to be true) come from other people and systems around me (society, ideology, culture).
I take too much responsibility for how others experience me (impression management).
I look for external validation—I am compelled to ask how well I did.
I find it difficult to answer: "What do I want?" Instead, I tend to parrot what I have heard.
Who I am is cue-dependent.
Level 4 (I am Object)
My thoughts, beliefs, and norms are independent of other people and the systems around me.
I honor my internal commitments.
This is the kind of person I am; this is what I stand for.
I have an internal sense of direction.
I facilitate and seek out a dialogue with opposing views.
I can view myself as an object that can be evaluated, analyzed, and understood.
I am aware of my deep structured identity.

them to learn from mistakes, and illuminate pathways that are likely to lead to positive outcomes (Verplanken et al., 2007). However, while self-critical reflection may be useful and mentally healthy, habitual negative self-reflection may have adverse outcomes. We strive to impart the principle that paying attention to reflection is particularly important for a leader.

Abridged Version of the Preparatory Material. *Maladaptive* self-reflection occurs when individuals mull over negative outcomes instead of what is possible and changeable. Furthermore, learning from negative outcomes appears to self-organize, as individuals inclined toward this orientation tend to devote considerable time to mulling over self instead of a task. This attitude may generate destructive emotions that may lead to feelings of anxiety, self-doubt, fear-based actions, and atrophy of identity and commitment, thus preventing people from fully engaging in a developmental event (Avolio & Hannah, 2008).

Adaptive self-reflection speaks to constructive, positive outcome reflection grounded in patterns of openness with a learning goal orientation. Openness and positive outcome reflection most readily occur when members are guided, yet feel responsible for their developmental progress (Petrie, 2011). Adaptive reflection facilitates a more profound thought repertoire, recognizes the “art of what is possible,” and unleashes a learning orientation that can enhance further developmental growth. The goal is to encourage us to ask ourselves “why” questions—not only after failed events, but also after successful ones (Ellis & Davidi, 2005).

Guided Reflective Questions. Do leaders have a decisive role in the reflective orientation their members adopt? If yes, how might we influence their reflective orientation? What role have I played in this? What role will I play in this?

Performance Versus Learning Orientation

Facilitation. The military presses members to adopt a performance orientation early. A discussion is held to help students identify when they engage in an experience with a performance or learning orientation.

Abridged Version of the Preparatory Material. A person’s orientation explains their motivation, approach to learning, goal setting, and self-regulatory processes in numerous ways. Members with a performance orientation tend to seek and demonstrate competence in safe environments and to gain favorable judgment from others. Performance orientation members tend to seek fewer challenging goals and engage in more impression management behaviors. This effort to monitor self-presentation depletes later self-regulatory resources (Vohs et al., 2005).

A learning orientation mindset triggers entirely different streams of thought and action from performance orientations (Brown et al., 2014). It helps members develop competencies by acquiring and mastering new skills, exploring challenges, and mak-

ing errors as instructive in the process. They seek higher goals and direct attention to the task rather than themselves (Brett & VandeWalle, 1999).

Guided Reflective Questions. What orientation have I demonstrated here during the course thus far? How might my goal orientation facilitate the development of leadership expertise using self-regulation strategies?

First Order Reflection and Second Order Reflexivity

Facilitation. The necessity of second-order reflection was argued in the context that leadership is a social phenomenon. It is not the logic of mathematics or hard sciences, but rather the logic of social interactions. Thus, there are limitations to our ability to predict, plan, and control social systems' behavior (Sanderson, 2006). Leadership requires creating and developing shared narratives and new social meanings to mobilize the capabilities for developing solutions to a specific challenge (Hobday et al., 2012). Thus, it is important to help students to construct sense-making from multidisciplinary and multi-institutional frames.

Abridged Version of the Preparatory Material. People are inevitably reflexive in a first-order sense. Nevertheless, Kegan (1994) argues that deciding *for myself* should not be confused with deciding *by myself*. His argument asserts that no leader outgrows the need for others' perspectives, experiences, and support. Furthermore, few have developed second-order reflexivity capacity—all find it difficult to engage in this activity.

First Order. Forming knowledge of ourselves in terms of dependent and independent variables.

Second Order. An intentional inquiry into essential social processes of self-knowing and the social processes we find ourselves experiencing. Second-order reflection means noticing and thinking about participation with others in the accomplishment of joint tasks. What is being noticed and thought about? How am I thinking about my engagement in social processes of communication, power relations, and ideology, reflecting choices that produce emergent patterns of action? It involves asking who we are, what we are doing together, why we are doing it, and how we are thinking about all these questions. This requires us to think about how we are thinking.

Guided Reflective Questions. There are no specific guided questions utilized, and the facilitator used emergent questioning tailored to students' class experiences.

Leadership Development Through Cascading Reflection

Facilitation. Guided organizational reflexivity directs and motivates members to systematically question their practices and learn about their assumptions (Staber & Sydow, 2002).

Abridged Version of the Preparatory Material. The focus of cascading reflection is stimulating metacognitive reflection in others. Ample evidence is available that inquiry in the form of guided reflexivity aids in the construction and reconstruction of meaning and meaning-making processes. Cascading reflection implies a dynamic recursive interplay between members and various levels of leadership within an organization. The senior leader establishes a reflective leadership style that cascades down, resulting in a similar approach conducted in a similar form at lower organizational levels. Cascading reflection also involves energy devoted to guided reflection sessions, which refers to leaders providing both groups and individuals with space for discovery to help them work through the dependent/intervening/moderating variables of the developmental event and to mine their experience, continuously and intensively (Day et al., 2009; Thomas & Cheese, 2005).

Guided Reflective Questions. There are no specific guided questions utilized, and the facilitator used emergent questioning tailored to students' class experiences.

Impediments to Critical Thinking

Facilitation. To help learners identify impediments to critical thinking, we discuss obstacles to critical thinking and ask them to reflect and share theirs.

Abridged Version of the Preparatory Material. Midgrade leaders need to conduct a comparative analysis and raise the level of complexity to encompass a swirl of social and ideological elements. Thus, while basic logic and reasoning skills are foundationally required, they alone are insufficient. Further, critical thinking does not come naturally, regardless of the context. We are all hardwired to focus on our near-term survival needs (Kahneman, 2011), to “put out fires,” and to focus on “the alligator nearest the boat.” With more variables to consider, these complex problems can often overwhelm more traditional instrumental rationalities.

Smooth sounding buzzwords and vaporous jargon are often challenging to translate into meaningful thoughts (Bateman, 2008). PowerPoint presentations are also often frustrating as they seem full of buzzwords, arranged in bullet points, providing the illusion of logical relationships that may or may not exist (Hammes, 2009). In this context, we may find that our critical thinking is truncated because we seek to determine courses of action before framing the problem and understanding its context. It seems that we continually have a lack of time to imagine different answers to a question. We are surrounded by those who think they know more than they do. Thinking critically requires a questioning mentality and a culture of inquiry.

Guided Reflective Question. Do those who have no military experience find it easier to develop critical-thinking skills because their minds are not burdened with tactical thinking and accompanying linear jargon?

Using Systems Thinking in Reflection—The Metaphors of the Galapagos Islands and Costa Rica

Facilitation. We have discovered that people generally do not think in terms of data. Instead, people think in terms of ideas, stories, or images. All these constructs form mental pictures of a given situation, problem, or decision. People generally think in pictures, but they also understand things best as images and stories (Peters, 1987). Therefore, we use the Galapagos Islands and the Costa Rican rainforest ecologies as a metaphor to deepen learning about adaptive systems. We are attracted to the use of metaphor to deepen learning. For instance, in deepening systems thinking perspectives, as a metaphor, we use Resnick's (2003) work and the ecologies of the Galapagos Islands and the Costa Rican rainforest, which provide two examples of varying robustness and the ability to adapt.

Abridged Version of the Preparatory Material. The Galapagos Islands, long in relative isolation and protection, did not acquire useful adaptive capabilities and remained vulnerable to invasive species. On the other hand, the Costa Rican rainforest evolved under a constant invasion of new entrants and developed a nearly impenetrable resilience. Similarly, protected Galapagos Island-like organizations that continually seek a high degree of equilibrium cannot survive against rival ecosystems. On the other hand, organizations with the Costa Rican rainforest traits, while having hardy competitors, adapt, dominate, and thrive.

We develop this leadership metaphor further by asking our students to consider an unusual tree found in the Costa Rican rainforest, known as the “walking tree.” The tree changes its location over time. It does so through a process of self-evaluation (or metacognitive reflection). The roots at its base provide a feedback loop as it searches for more fertile soil. When good soil is discovered in one direction, the tree reinforces those roots while allowing the roots that no longer add value to die off. As the roots in the better soil grow and those in the more deficient soil die off, the entire tree gradually moves toward the stronger position. As the movement continues, the roots—or the students—are never in an end state. They continually scan for even better soils, and the action continues in any direction.


Guided Reflective Questions. Metaphorically, am I Galapagos or Costa Rica? Am I a complex adaptive system or an equilibrium seeker? Am I resistant to change? Am I adaptive? Is my mental framework that of entities (unit, competencies, qualifications), or do I see things in terms of relationships in which we can co-evolve together? Am I growing? Am I a walking tree or fixed in place? Do I move in a direction that gives me and my organization more options? Am I too controlling?

Conclusion

Learning requires more than telling people to “reflect” and hoping for the best. Learning outcomes are cognitively and emotionally complex and only tem-

porary and casually organized (Olivares, 2011). Making sense of and effectively assimilating learning requires self-awareness and reflection (Bourner, 2003), but the resources of time, development, and intentionality needed to utilize reflective learning are seldom expended. Reflective thinking should be taught using explicit and thoughtful strategies to be effective (Russell, 2005). We believe that any intervention that discounts reflective learning is unlikely to meet its intended effect. Therefore, we urge organizations to consider designing and incorporating methodologies to fully harness reflective learning's transformative power as the mainstay of their leadership development strategy.

For MOCTC-1, we have not only provided dedicated time and attention to reflection but are deliberately seeking to teach a leader how to create organizational space for coherent and meaningful reflection on experiential activities and put in place continued, regular reinforcement cycles that synthesize existential links, providing a cycle of discoveries or epiphanies throughout the organization (Boyatzis, 2006). This critical culture of inquiry demands a reflexive environment, and the MOCTC-1 Guided Reflection framework is our attempt to create one. The daily guided metacognitive reflection activities we have our students engage in seek to develop the adaptive capacity they will need to find success in future roles in a complex world that requires leaders who can deconstruct and reconstruct their thinking to realize alternative meanings.

The lack of specific models for developing reflective practice has led MOCTC-1 to innovate an explicit and thoughtful framework to do so. This unique approach has caused a shake-up in our longstanding pedagogical schemas. By providing this alternative educational opportunity, it has substantially promoted the power of reflective learning among us. We believe that organizations can develop a reflexive institutional environment by offering the same. We wish you the best of luck in adapting your metacognitive reflection framework to your program's needs. We hope to see these developments and results in the literature in the coming months. 

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Identifying the State of the Art in E-Learning with the Innovation, Instruction, and Implementation in Federal E-Learning Science & Technology Conference

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Abstract

Training and educational organizations are rapidly changing to support their stakeholders within the e-learning setting. Leaders within these organizations must actively work to stay up to date on best practices within the field. The Innovation, Instruction, and Implementation in Federal E-Learning Science & Technology (iF-EST) Conference is the premier conference on distributed learning, bringing together thought leaders, innovators, and senior officials from government, industry, and academia to collaborate and share the latest challenges and innovations in the field. The conference offers innovative keynote talks, panel sessions, interactive activities, exhibits by industry, and talks from individual presenters. Topic areas include digital learning science, learning technology, learning data, technology interoperability, policy, and an annual timely topic that changes each year.

Training and educational organizations are rapidly changing how they support their stakeholders. These changes are driven by technological innovations and the need to provide education and training to larger numbers of learners at a rapid pace (Graesser et al., 2019). Many of these learners are immersed in online learning environments. Based on the 2019 numbers, the most recent numbers available at time of print, 7,313,623 students were enrolled in online education courses at the postsecondary level in the United States or 44.2% of the student population (National Center for Education Statistics, 2020, 2021). Even traditional classrooms are

changing by increasing use of technology to offload direct instruction thus allowing instructors to facilitate higher level learning (e.g., flipped classrooms and technology-enhanced classrooms; Enfield, 2013; Roehl et al., 2013).

The high pressure of providing education and training within this rapidly growing technological environment often requires rapid decisions based on limited information. Unfortunately, such demands can result in well-meaning decision-makers pursuing suboptimal or misleading choices. Decision-makers often cling to traditional methods (e.g., in-person lectures) instead of innovating (Allen & Seaman, 2013), in part due to beliefs that technology-supported techniques are less effective. This is not true. E-learning (Means et al., 2013) and blended/flipped/technology-enhanced classrooms (Liu et al., 2016) can be just as effective as traditional classrooms, and in some cases, *more effective*. However, to be successful, there must be a deliberate consideration of the needs of learners and the organization, support for those needs, and willingness to explore state-of-the-art techniques for addressing the needs (Craig & Schroeder, 2020; Craig, Schroeder et al., 2020). Leaders of training and educational organizations as well as other members of the organization must stay up to date with best practices within the science of learning, current trends learning technology, and learn from effective policies on learning implemented by other organizations (Craig & Schroeder, 2020).

Facilitating Knowledge of Best Practices for E-Learning at iFEST

The Innovation, Instruction, and Implementation in Federal E-Learning Science & Technology (iFEST) Conference is an ideal conference to assist training and education organizations stay up to date on the state-of-the-art learning practices and procedures related to learning with technology. The conference is “the premier conference on distributed learning, bringing together thought leaders, innovators, and senior officials from government, industry, and academia to collaborate and share the latest challenges and innovations in the field” (Advanced Distributed Learning Initiative, 2021). First started in 2003, iFEST just finished its 18th successful annual

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Figure 1
iFEST 2021 Virtual Conference



conference. The conference is jointly organized by the National Training and Simulation Association and the Advanced Distributed Learning Initiative. The call for ideas for submissions to iFEST runs from around 15 January to 15 March. The conference is normally held around the end of August or early September.

iFEST 2021

The 2021 meeting of iFEST was held from 31 August to 2 September 2021 (see Figure 1). The conference was held online; however, most iFEST conferences have been in person in Washington, D.C. The conference had 525 attendees that spanned the public, private, nonprofit, and academic sectors. The bulk of the attendees were from the federal government/military backgrounds who also received free attendance to the conference.

The conference offers information from many difference formats. It offered three real-time keynote talks with a government keynote from Dustin Brown, Senior Executive Service, deputy assistant director for management, Office of Management and Budget; a legislative keynote from Rep. Robert C. Scott (D-VA), chair of the U.S. House Committee on Education and Labor; and a military keynote from Maj. Gen. Donn H. Hill, Combined Arms Center deputy commanding general—education, Army University provost, and Command and General Staff College deputy commandant. In addition, the conference had panels on modernizing training for integrated

operations and innovation in government learning systems. Both included candid discussions of experts from both the U.S. government and around the world. The live elements of iFEST also included eight activity sessions where attendees could engage in hands-on activities/training and an exhibit hall where attendees could interact with cutting-edge companies and organizations in the field. In addition to these, the conference had prerecorded 27 presentations and 13 prerecorded posters.

Topic Areas

Each year, iFEST focuses on five common lines of effort plus an annual timely topic. For the 2021 conference, the topics and their descriptions are provided in the Table.

Digital Learning Science

Technology is now a more important component within the learning process. However, the fundamental principles of how humans learn have not changed. For humans, learning is messy. The act does not take place in a sterile environment, nor is it automatic. Learning is individualistic, sometimes spontaneous, but often very effortful, slow, and gradual, and moves forward in fits and starts (Hattie, 2009). Because of this, training and educational organizations must support the needs of the stakeholders, ensure that appropriate resources are allocated, and ensure buy in from all stakeholders (Craig & Schroeder, 2020; Giattino & Strafford, 2019; Moore & Kearsley, 2011; Muilenburg & Berge, 2001). Thus, it is important for educational decision-makers, instructional designers, and instructors to understand the best practices for learning and implement them to the best of their ability and resources. In the remainder of this section, we have summarized the basics of human learning that could be supported by well-organized, state-of-the-art e-learning.

Digital Learning Science at iFEST. This year's iFEST conference had three talks pertaining to the digital learning science area. These ranged from very specific such as training effectiveness of augmented and virtual reality and the role of instructors in personalized learning to broader methods for heuristically evaluating learning organizations for compliance with science of learning best practices.

Learning Technology

Learning technology encompasses a large swath of space from basic websites or PDF-based e-books to highly interactive learning systems that use artificial intelligence to personalize experience for learners. These technologies range in ef-

Table***The Six Topics of Focus for iFEST and the Conferences Description of Each Topic***

Topic	Description
Digital Learning Science	Effective application of learning science, particularly for technology-enabled learning and learning ecosystem contexts. Example topics include learning science for the future, learning strategies and tactics for new training or education platforms, learning theory related to data-driven learning, and lifelong learning principles.
Learning Technology	Digital learning systems, including new platforms or new ways to use learning platforms. Example topics include e-learning and mobile systems, multimedia learning platforms, learning experience platforms, digital assessment systems, and enabling applications such as content repositories, course catalogs, competencies, and qualification systems.
Learning Data	Data within the context of learning systems to include improved measurement, storage, handling, analysis, visualization, and use. Example topics include data-driven learning, real-time adaptations, learner profiles in practice, competency and credentialing management, stealth assessment, and privacy, identity, and security of learner data.
Technology Interoperability	Interoperability within systems or applications, including specifications, interface and data standards, and technical considerations for implementing a modern continuum of learning. Example topics include metadata standards for courseware, learning performance standards, xAPI profiles for Department of Defense, interoperable learner records, data architectures, and other learning ecosystem considerations.
Policy	Policy, process, and governance considerations relevant for the distributed learning community. This includes topics such as government regulations, industry guidelines, oversight structures, formal law and policy considerations, and organizational dynamics.
Annual Timely Topic	Learning and Thriving in the New Normal—The pandemic required organizations to pivot online from in-person workplaces, classes, and events. What lessons have been learned to adapted to this “new normal?” How are organizations building and improving on past practices to create new and better ways of doing things?

fectiveness. Noninteractive technology such as e-books are little more than a PDF page-turner and are not particularly effective or liked (Daniel & Woody, 2013). Computer-aided instruction such as an e-book expanded with video-based modeling and predictive questions is considered more effective (Craig et al., 2018). A dynamic personalized system such as an intelligent tutoring system is the most effective (Kulik & Fletcher, 2016; Ma et al., 2014). One review of the literature even showed that dynamic systems such as intelligent tutoring systems are as effective as one-on-one human tutoring (Vanlehn, 2011).

Learning Technology at iFEST. With 26 presentations, learning technology area was the largest and most popular topic at iFEST. This is a pattern that has been repeated in the last few years. Most of these talks involve a presentation over a specific system containing an overview of the learning science principles that support them, evaluations of the system, and information on how the systems have been applied in the field.

Learning Data

To modernize courses and enable information sharing, learning technologies must be able to collect and output learning data. There are several popular standards for data. xAPI is an example of one method for capturing, standardizing, and sharing human performance data. Within xAPI, all learning experiences can be represented as interactions both internal and external to the online environment (Murphy et al., 2016). These data can be stored within databases for later analysis via learning analytics and data mining techniques. The output of these analyses can then be used to optimize future learning through increased personalization (e.g., of learning materials or processes) or data visualizations (e.g., dashboards that offer feedback or recommendations to students, instructors, or administrators). Additionally, these data can be used to detect unproductive learning behaviors (Papamitsiou & Economides, 2014) and even cheating behaviors (Chuang et al., 2017). Long and colleagues (2015) implemented personalization and visualization strategies within a rifle marksmanship course, resulting in a nearly 40% reduction in training time. Although this approach is promising, additional research is needed to determine the best practices for implementation and impact.

Learning Data at iFEST. The uses of learning data are broad, and this is reflected in the 10 presentations at this year's iFEST. The topics ranged from specific how-to applications such as using captured data to identify effective digital instruction and using data to provide effective data visualization in the form of dashboards up to review of return on investment (ROI) from using learner data and using learner data to ensure credentials are meet for certification programs across multiple institutions.

Technology Interoperability

Technology should collect and support data within courses and ideally feed into databases that can be reused within the course, externally from the course-for-course redesign (Paredes et al., 2020) or to feed into a larger learning ecosystem (Gordon et al., 2020)(see Figure 2). To modernize courses and enable information sharing, learning technologies must be able to collect and output learning data. Several data standards are already in use with xAPI providing a popular method for capturing, standardizing, and sharing human performance data.

Growing evidence supports the use of technology interoperability. Long et al. (2015) investigated interoperable system performance for unstabilized gunnery simulators. The goal was to improve the efficiency of the adaptive training curriculum on a virtual simulation training system. They found a significant reduction in the amount of time to train with comparable final qualification scores. The Army Research Laboratory developed Pipeline, which is a Microsoft.NET dynamic link library that enables simulator vendors to wrap around their systems to be able to generate and consume xAPI activity statements (Long et al., 2015). Like the result found by Murphy et al. (2016), a nearly 40% reduction in time spent training on Basic Rifle Marksmanship was found. This was mainly due to acceleration in the curriculum. However, in this study the participants were cadets from a local ROTC and not actual military trainees. Furthermore, both studies addressed only a stove-piped learning episode (i.e., across multiple learning episodes), as both implemented adaptation in a single learning experience (Smith et al., 2018). Smith et al. (2018) stated that ideally, these adaptations should be applied within and across learning and development episodes.

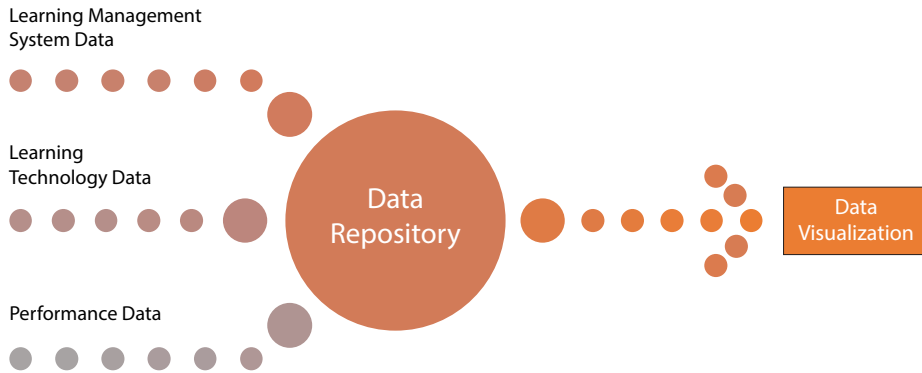
Technology Interoperability at iFEST. The conference had nine presentations on technology interoperability. These included talks on transiting to higher levels of interoperability such as moving from older SCORM systems to modern xAPI systems and retrofitting standard classroom training into more technology supported and interoperable environments. Presentations also focused on more detailed talks explaining higher level standards that have been set forth for implementing interoperable networks such as the Total Learning Architecture.

Policy

Any learning organization is only as good as the governance set forth to oversee its operation of its learning ecosystem (Walcutt & Schatz, 2019). Policy is one of the key issues that must be set to guide the process of good governance (Giattino & Stafford, 2019). These policies establish who among multiple constituencies are responsible for establishing and enforcing policy across the organization. The policies

Figure 2

Visual Example of Technology Interoperability From Data Collection Sources to Reuse



also guide change within the learning ecosystem by setting acceptable guidelines for evaluating performance (Berk, 2013; Giattino & Stafford, 2019; Hai-Jew, 2006) and providing flexibility that allows change within the organization without fear of reprisal (Craig, Li et al., 2020).

Policy at iFEST. The iFEST conference had four excellent presentations over policy in the current year. Two of the talks presented policies on xAPI implementation at a higher level by the advanced distributed learning initiative and a more applied level within the U.S. Navy. The other two talks were excellent examples of public transparency of policy with a public review and comment session on the NATO Advanced Distributed Learning handbook and a consideration of stakeholders in a talk that discussed integrating learning engineering into a team.

Annual Timely Topic

The annual topic this year was “Living and Thriving in the New Normal.” This topic was in direct response to the drastic shift toward e-learning during the COVID-19 pandemic. This has become a widely documented phenomenon that has impacted most if not all instances of training and education (Soni, 2020). For example, a quick search on Google Scholar with the key terms of COVID-19 and e-learning shift provided 2920 articles reporting how the shift occurred that range from K-12 to adult learning organizations from almost every discipline of learning and numerous countries.

Annual Timely Topic (Living and Thriving in the New Normal) at iFEST. The annual timely topic did not disappoint. Nine interesting talks provided guidance and les-

sons learned for the breakneck speed within which most learning and training organizations work. These talks provided practical guidance from best practices for recording success and developing creativity in using new technology to specific guidance on useful technology, such as how to switch between in-person, online, and blended learning, and extending reality with new technology such as augmented reality and virtual reality.

Conclusion

In the words of Abraham Lincoln (1989), “we know nothing of what will happen in future, but by the analogy of experience” (p. 50). However, dealing with the COVID pandemic has taught us is that past experience does not always provide the best analogy. That is why leaders within training and learning organizations must be prepared to understand the state of the art in modern learning ecosystems (Craig, Li et al., 2020; Walcutt & Schatz, 2019). Having a firm foundation in modern learning ecosystems is essential for creating innovative learning organizations that can quickly respond to new challenges. Attending and presenting at conferences such as iFEST is a unique opportunity to understand the cutting edge of modern learning ecosystems and to identify the people that are moving the area forward. ☞

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Upcoming Conferences of Note

January 19–21, 2022: Association of American Colleges and Universities Annual Meeting

Marriott Marquis · Washington D.C.

<https://www.aacu.org/meetings/am22>

Titled, “Educating for Democracy.” In-person and virtual attendance options. Meeting will bring together a broad and diverse community of educators not to look back to an idealized pre-pandemic normal but to look resolutely forward. The meeting program will provide a clear-eyed assessment of the obstacles that remain on the path to a liberal education for many students today.

January 25–28, 2022: Future of Education Technology Conference

Orange County Convention Center · Orlando, Florida

<https://www.fetc.org/>

Presentations of new technologies, best practices, and pressing issues.

March 5–7, 2022: The American Council on Education’s Annual Meeting

Marriott Marquis · San Diego, California

<https://www.aceannualmeeting.org/event/1492a75d-6a34-4352-b52a-13683612c861/summary>

Titled, “Together We Can.” Regarded as the most distinguished higher education event nationwide, more than two thousand executive leaders in higher education regularly attend the annual conference. With a focus on data-driven insights, next year’s participants can look forward to three days full of networking opportunities, information sessions, and more.

April 1–5, 2022: Higher Learning Commission Conference

Hyatt Regency · Chicago, Illinois

<https://eventsinamerica.com/events/higher-learning-commission-2021-annual-conference/>

Titled, “Evolving Together.” In-person and virtual attendance options. Held annually in the spring in Chicago, the conference offers learning, professional development, and networking opportunities for Higher Learning Commission members.

June 2–4, 2022: Lilly National Conferences: Teaching and Learning

Doubletree by Hilton · Austin, Texas

<https://www.lillyconferences-tx.com/>

Provides opportunities for the presentation of the Scholarship of Teaching and Learning. Faculty and administrators at various stages in their academic careers come from across the United States, representing nearly every discipline found in higher education.

June 3–5, 2022: The Teaching Professor Conference

Marriott Marquis · Atlanta, Georgia

<https://www.magnapubs.com/teaching-professor-conference/2022-teaching-professor-conference/>

Focuses upon practical, evidence-based tools and practices to help professors excel in the classroom.

June 3–5, 2022: Adult Education Research Conference

Vancouver, Canada

<https://newprairiepress.org/aerc/>

The Adult Education Research Conference is an annual North American conference that provides a forum for adult education researchers to share their experiences and the results of their studies with students, other researchers, and practitioners from around the world.

June 28–30, 2022: Army University Learning Symposium

Fort Leavenworth, Kansas

Save the date. Symposium planning is underway for a blended in-person and virtual event. Topics will include post-pandemic lessons learned, modernizing learning (technology, design, and flexibility), developing/managing talent, Army learning and training concept required capabilities, and Army education modernization strategy.

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Call for Papers


The *Journal of Military Learning (JML)* is a peer-reviewed, semiannual publication that supports efforts to improve education and training for the U.S. Army and the overall profession of arms.

We continuously accept manuscripts for subsequent editions with editorial board evaluations held in April and October. The *JML* invites practitioners, researchers, academics, and military professionals to submit manuscripts that address the issues and challenges of adult education and training, such as education technology, adult learning models and theory, distance learning, training development, and other subjects relevant to the field. Submissions related to competency-based learning will be given special consideration.

Submissions should be between 3,500 and 5,000 words and supported by research, evident through the citation of

sources. Scholarship must conform to commonly accepted research standards such as described in *The Publication Manual of the American Psychological Association*, 7th edition.

Do you have a “best practice” to share on how to optimize learning outcomes for military learners? Please submit a one- to two-page summary of the practice to share with the military learning enterprise. Book reviews of published relevant works are also encouraged. Reviews should be between 500 to 800 words and provide a concise evaluation of the book.

Manuscripts should be submitted to usarmy.leavenworth.tradoc.mbx.armyu-journal-of-military-learning@army.mil by 1 April and 1 October for the October and April editions respectively. For additional information, call 913-684-2090 or send an email to the address above. 

Author Submission Guidelines

Manuscripts should contain between 3,500 to 5,000 words in the body text. Submissions should be in Microsoft Word, double-spaced in Courier New, 12-point font.

Manuscripts will use editorial style outlined in *The Publication Manual of the American Psychological Association*, 7th edition. References must be manually typed. (The automatically generated references employed by Microsoft Word have proven to be extremely problematic during conversion into final layout format for publication, causing delays and additional rekeying of material.) Manuscripts that arrive with automated references will be returned to the authors for compliance with submission requirements. Bibliographies will not be used and should not be submitted with manuscripts.

Submissions must include a one-paragraph abstract and a biography not to exceed 175 words in length for each author. Such biographies might include significant positions or assignments, notes on civilian and military education together with degrees attained, and brief allusions to other qualifications that establish the bona fides of the author with regard to the subject discussed in the article. Do not submit manuscripts that have been published elsewhere or are under consideration for publication elsewhere.

Authors are encouraged to supply relevant artwork with their work (e.g., maps, charts, tables, and figures that support the major points of the manuscript. Illustrations may be submitted in the following formats: PowerPoint, Adobe Illustrator, SVG, EPS, PDF, PNG, JPEG, or TIFF. The author must


specify the origin of any supporting material to be used and must obtain and submit with the article permission in writing authorizing use of copyrighted material. Provide a legend explaining all acronyms and abbreviations used in supplied artwork.

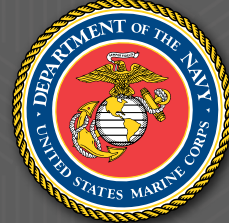
Photo imagery is discouraged but will be considered if it is germane to the article. Authors wanting to submit original photographs need to do so in JPEG format with a resolution of 300 DPI or higher. Each submitted photo must be accompanied by a caption identifying the date it was taken, the location, any unit or personnel in the photo, a description of the action, and a photo credit specifying who took the photo. Captions should generally be between 25 and 50 words.

The *Journal of Military Learning (JML)* will not consider for publication a manuscript failing to conform to the guidelines above.

The editors may suggest changes in the interest of clarity and economy of expression; such changes will be made in consultation with the author. The editors are the final arbiters of usage, grammar, style, and length of article.

As a U.S. government publication, the *JML* does not have copyright protection; published articles become public domain. As a result, other publications both in and out of the military have the prerogative of republishing manuscripts published in the *JML*.

Manuscripts should be submitted to us-army.leavenworth.tradoc.mbx.army-journal-of-military-learning@army.mil by 1 April and 1 October for the October and April editions respectively. For additional information, call 913-684-2090 or send an email to the address above. 



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