Feedback from the Field for Captains Career Course Common Core:

Relevance to Outcomes-Based Military Education

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Abstract

As part of U.S. Army modernization efforts, Outcomes-Based Military Education (OBME) has been endorsed as an important part of updating approaches in Professional Military Education (PME; CJCSM 1810.01). OBME advocates that education should be student-focused, shifting away from what needs to be taught and prioritizing what students need to learn. A key requirement of implementing OBME principles in PME is defining operationally relevant outcomes and demonstrating that they have been achieved through feedback from the operational environment. This paper presents reviews a range of current approaches to obtaining feedback from the operational environment relevant to the Captains Career Course (CCC) Common Core (C5). The aim of the paper is to summarize available forms of feedback with a focus on whether they can (a) capture operational requirements, and (b) be used to establish predictive relationships between PME outcomes and operational performance measures. Practices from CCC schools and COEs are sampled to provide a diverse range of available approaches for capturing operational measures and linking measures to PME outcomes. Identifying both gaps and best practices will inform the development of predictive models as part of OBME implementation in the CCC. More broadly, this paper can contribute to building a generalizable process for evaluating available links between PME and operational performance, which can be applied to other courses.

Contents

Introduction

This paper summarizes findings from the first of three phases in a 2024 Army University Research Program (AURP) project, "Predicting Operational Performance in Outcomes Based Military Education." This project targets the Captains Career Course (CCC) Common Core (C5), with the aim of developing links between Professional Military Education (PME) assessments or evaluations and "external" measures of graduate success in the operational environment.

There are major challenges in linking evaluations or performance measures from C5 instruction to measures from graduates' operational environment, including conceptual, methodological, and logistical barriers. The current paper provides a summary of information gathered in the first phase of the project, regarding the current external evaluations used by Quality Assurance Offices (QAOs) across the schools and Centers of Excellence (COEs) that administer the CCC. Practices from the QAOs at a wide range of CCC schools/COEs were sampled to provide broad information on both gaps and best practices in current approaches, with the aim of identifying measures from the operational environment that can be linked to PME outcomes. An additional aim of this paper is to use the information gathered to provide initial recommendations for the project's second and third phases, which aim to establish and optimize predictive PME-operational relationships.

OBME and External Evaluations

The modernization of the U.S. Army requires updating training and education, including introducing innovative approaches to how course materials are developed, how they are taught, and how students learn. Outcomes Based Education (OBE) is an approach that has become increasingly applied in civilian higher education, and Outcomes Based Military Education (OBME) has been endorsed as an important part of modernizing PME (Vandergriff, 2010; CJCSM 1810.01). OBME advocates that education should be student-focused; this means shifting away from what needs to be *taught* and prioritizing what students need to *learn*. The "outcome" in OBME refers to a clear statement of what students should be able to *know and do* when finishing the course, and an OBME approach requires developing methods to justify and assess those outcomes (CJCSM 1810.01).

OBME is not an alternative to the widely implemented Analyze, Design, Develop, Implement, and Evaluate (ADDIE) model of curriculum development. Rather, outcomes-based frameworks can be tested within the ADDIE process (e.g., Magallanes, 2019), and a targeted OBME approach is a means of supporting and optimizing ADDIE stages.

OBME requires an evidence-based approach: "Unlike traditional education, which is largely input-based, outcomes-based education focuses on outputs, emphasizing evidence collected from direct and indirect assessments of student performance both within and external to the learning environment (CJCSM 1810.01, Enclosure A, p.A-1)." Specifically, achieving the goals of an outcomes-based approach in PME depends on evidence that students have achieved real-world outcomes: "… the ultimate demonstration of PLO [Program Learning Outcome] achievement, as designed by OBME, occurs post-graduation in follow-on professional work (CJCSM 1810.01, Enclosure A, p.A-2)."

OBME and C5 modernization

The proponent of the CCC Common Core is the Instructional Design Division (IDD), Vice Provost of Academic Affairs (VPAA), Army University (Army U). IDD develops centralized curricula and lesson plans for five modules that constitute the C5: The Army Profession, Mission Command, Operational Processes, Operations, and Training. C5 modernization was initiated in late 2020, with a novel blended design for Active-Duty instruction implemented in October 2022. The details of this era in C5 modernization and the specific changes to course design are detailed in Fortuna (2023). Evaluation efforts for the modernized C5 instruction began in October 2022 and have gathered feedback from students and instructors across the CCC schools/COEs (see Shafto & Lauer, 2023 for a report of the first year of evaluation).

While evaluations throughout C5 instruction provide critical feedback for developing the curriculum, fully understanding the impact of instruction requires measures from beyond the course. Ongoing C5 modernization aligns with a vision of modernized PME as a continuum of diverse, flexible, and lifelong learning: a *learning ecosystem* as outlined in "The Army Learning Concept for 2030-2040" (TRADOC Pamphlet 535-8-2; see also Walcutt & Schatz, 2019). Establishing an interconnected continuum of educational opportunities requires adhering to an outcomes-based approach where success can be measured longitudinally.

In the context of the C5 modernization, the AURP project, "Predicting Operational Performance in Outcomes Based Military Education," focuses on developing links between C5 instruction and measures from the operational environment. Meeting the goals of this project will support the C5 evaluation infrastructure and the implementation of OBME in PME. Moreover, because this project aims to optimize the predictive student-graduate relationships by developing well-targeted outcome measures, this process can support the C5 ADDIE process by providing data for making concrete, actionable decisions about course materials improvement.

Characteristics and challenges for effective external measures

Outside of the Army Learning Enterprise, the development of *predictive models* is a prevalent and important approach in OBE and educational research more broadly. Predictive models have used formative assessments to predict students' final performance in a course (e.g., Brooks et al 2017) as well as using course performance to predict post-graduate outcomes like employability (e.g., Othman et al 2020).

Following Joint guidance (CJCSM 1810.01), many Army Learning Enterprise institutions are underway with the processes required for OBME accreditation. While this process involves gathering and reporting relevant evidence, there is no standard research-based approach to achieving OBME goals, such as establishing predictable and operationally relevant post-graduate measures (see e.g., Ellinger & Posard, 2023). Questions remain on how to systematically define and evaluate post-course outcomes (e.g., Ellinger et al, 2023 p.15-16) and link student achievements and professional skills (Eldeen et al., 2018).

There are three main challenges in developing reliable measures to link PME and operational measures:

(1) Representation and systematicity: Outcome measures need to be reliably collected in order to create representative data. This can be a challenge for external feedback where graduates may be difficult to contact or there may be other barriers to participation.
(2) Concrete measures: To provide productive information as part of the ADDIE process, outcomes must be observable and measurable (Rao, 2020; Schreuers et al., 2020). This can be a challenge if there are not consistent opportunities to either evaluate or assess performance post-graduation.
(3) Linkable: PME and operational measures need to have a common framework so they can be related. Linking education measures to post-graduate outcomes requires developing a shared set of principles that underpins both types of measures. This can be a challenge if evaluation and assessment post-graduation does not include topics related to PME outcomes. Keeping a common framework pre- and post-graduation can also be difficult because schools and COEs teaching the CCC have a wide range of operational goals, and student career opportunities and responsibilities vary both before and after their course. Establishing predictive relationships must account for variable student and graduate experiences.

Current paper: QAO external surveys

The aim of the current paper is to develop an understanding of current efforts to systematically collect post-graduation survey feedback. As such, I focus on the QAO external surveys as these are the main source of external evaluations that are administered consistently by schools/COEs.

QAO external surveys are sent out at each school and COE 6-12 months after students graduate their CCC. The requirements for external survey delivery are outlined in TRADOC pamphlet 11-21, "Army Quality Assurance Program Procedures." Per this document, institutions "submit a quarterly summarized external survey data report to the HQ TRADOC QAO External Survey Program Manager, who prepares a summary of the aggregate results for the AQAP Director to brief TRADOC senior leaders." Also per this document there are three required questions: Graduates must be asked (1) if the training and education they received adequately prepared them to perform their jobs at their units, and (2) if they were trained and educated on the same equipment (or concepts) they use at their units; finally, leaders must be asked (3) if the training or education that their personnel received adequately prepared them to perform their jobs at their units.

Although these requirements indicate the core role of the external surveys in providing standardized information (three required questions) that can be used in aggregate to contribute to accreditation requirements, the procedures allow for variability in how individual institutions approach the external surveys. First, the required questions are *a minimum*, so that institutions can ask a wider range of questions; Second, institutions can "distribute their external survey reports to institutional stakeholders as required by local policy," allowing the results of the survey to inform in-house processes. Thus, summarizing the range of QAO practices and procedures across schools/COEs can meaningfully inform the development of C5 external evaluations.

Methods: QAO Discussions

The trends reported were gathered from discussions held with QAO representatives of Aviation Center of Excellence, Cyber Center of Excellence, Fires Center of Excellence, Intelligence Center of Excellence, Maneuver Center of Excellence, Maneuver Support Center of Excellence, Medical Center of Excellence, Mission Command Center of Excellence, US Army Institute for Religious Leadership. No school or individual will be attributed in describing feedback received.

Each discussion was informal and wide ranging to encourage individualized input from the representatives, but each also touched on three key topics: (1) the content, timing and recipients of the external surveys; (2) how feedback from the surveys is used, including describing the relevant stakeholders; (3) key challenges and desired improvements to the feedback process.

The primary focus of the questions was on the external survey procedure for CCC graduates, but as many QAO officers are responsible for evaluating multiple courses they often commented on a range of courses. Comments covering other courses are integrated here since the methodological lessons learned from a range of courses are likely to be relevant for developing C5 external evaluations. Indeed, it was not the goal of the discussions or this project to evaluate the QAO external survey process, but to use the range of experiences across the schools/COEs to provide insights for developing effective C5 external evaluations.

Results: QAO Discussions

This section summarizes the key themes that emerged from the discussions which can usefully inform the C5 external feedback project moving forward.

COE/school-specific external feedback

Most respondents indicated that they used the external surveys to get information beyond the required scope of the survey and use it for school-specific feedback purposes. They also indicated other methods beyond the external survey that were used to provide different dimensions of external feedback.

1. School-specific external survey content: While a few representatives indicated that only the three required QAO questions are administered in the external surveys, most indicated that they extended the questions on the external survey to include questions about specific tasks or skills that were specific to the school or COE's course objectives.

2. Using external surveys for the ADDIE process: As with the questions, only one representative indicated that they used the feedback only for QAO purposes (sending a report to TRADOC QAO). The other respondents indicated other uses for the feedback, with a range of how the data were used: some fed back results only to their own leadership, while others indicated that external survey results are used in post-instructional conferences and after-action reviews (AARs) or sent to developers as input into the ADDIE course development process. The perceived usefulness of the external survey data for the ADDIE processes was mixed, with some respondents reporting that other sources of

feedback were the main drivers of course-related changes. For example, one respondent indicated that more directly useful feedback for decisions came from in-house surveys implemented by the course manager and Director of Training, as well as independent decisions from the Commandant.

3. Other avenues of external feedback: Just as most respondents reported adding to the required QAO questions, most also reported a range of other methods for gaining external feedback. For graduate feedback some schools/COEs developed in-house external surveys while others took advantage of AARs, Critical Task Site Selection Boards or job analyses as opportunities for getting feedback from the operational force. A minority of respondents described ongoing or planned initiatives that actively reach out to the operational environment, including gathering evaluations at umbrella weeks or sending representatives to National Training Centers (NTCs) to gather relevant feedback during and following training events. An initiative described at one COE aims to send a subset of the CCC students to an NTC to participate in training during their CCC experience. For leader feedback, a common tactic was to get leader feedback from those who have come for in-person PME such as pre-command courses, and by seeking informal discussions with senior leaders coming to invited events such as conferences.

Improving the utility of external feedback

There were several common challenges to getting useful external survey feedback. One of the common responses to these challenges was taking the multi-pronged approach, using multiple feedback paths as described above. Additionally, respondents detailed planned or potential ways of addressing challenges or improving feedback utility.

1. Challenges to getting Effective External Feedback:
   The most-commonly mentioned challenge was the poor return rate, which particularly affected external surveys (relative to, for example, the end of course or midterm feedback). Return rates of less than 10% were commonly mentioned, with some lower than 2%. While I did not explicitly ask for class sizes and return numbers, I note that for ongoing C5 end of course evaluations, the average class size invited to complete surveys is about 50 students; a return rate per course of 5 or fewer is unlikely to provide adequate evidence for making decisions.

   Respondents provided a range of suggestions for why response rates may be low, including survey fatigue (receiving so many survey requests that motivation to respond declines), limited time available to respondents to prioritize survey completion, and students being difficult to contact because they have not been issued a government email address, have multiple government email addresses, or work within a security environment where survey invitations are blocked.

   The second challenge to the utility of the external survey feedback was whether they provided actionable feedback. The first theme in this set of challenges was whether the

"right" questions were being asked: for example, while the required QAO questions probe important issues, on their own they may be too general to provide feedback that can be used by, e.g., course managers or curriculum developers. One respondent noted it is critical that surveys are designed with improvement goals in mind, so it is clear how survey results do or do not provide evidence of improvements or declines in course qualities.

The second theme regarding actionability highlighted the sources of variability when sampling graduates. For example, when asking about specific skills and abilities learned in the course, evaluators face the challenge that graduates may have had highly variable experiences after leaving the course; in addition to asking graduates about their skill *proficiency*, it is important to probe whether the skill is or has been *relevant* for their duties. Likewise, when sampling leaders is it not always possible to know which if any recent graduates they command and whether they have knowledge or experience of the relevant skills and abilities being asked about.

A third theme regarding actionable feedback is whether there is an automated flow of response data to relevant stakeholders. This factor varied across respondents, with some describing explicit infrastructure for feedback to both be reported (e.g., to course managers) and to be applied (e.g., during AARs); in contrast, some respondents expressed concerns that feedback may need to be "pushed" to relevant stakeholders and may or may not be used consistently.

Finally, a third challenge mentioned by several respondents was resourcing for developing and implementing targeted feedback: it was not always possible to identify time or expertise for developing, e.g., an in-house external survey. As a related issue, one respondent mentioned that new or evolving PME requirements may add the need for new targeted evaluations, but without those requirements being formally resourced.

2. "Wish lists" and suggestions for improving feedback:

When asked what they would like to see improved about external feedback, respondents provided ideas both for a "wish list" and that reflect potential or planned actions.

A better return rate for external surveys was on the top of the "wish list" for QAOs. Ideas on how to achieve this included considering mechanisms for reducing survey fatigue, exploring alternative survey implementation platforms that may reduce security interference, and finding ways to increase leadership involvement in the feedback process to make it a higher priority for graduates.

Several schools outlined ideas to "reach out" into the operational environment for feedback including creating tiger teams or appointing responsible personnel at installations who could identify recent graduates and gather feedback; having someone in an installation who could track graduates would also aid in identifying relevant leaders at the same installation. As a related idea, several respondents suggested a role for a school/COE representative at the relevant NTCs who could ask targeted questions above and beyond the current training assessments, so that there would be feedback which can be directly related back to

educational aims and objectives. Other respondents pondered if there were other existing or planned sources of data that could provide external feedback, such as data that may become available as part of the IPS-A system. Finally, one respondent suggested a novel means of obtaining operational "feedback" – taking steps to increase the proportion of military instructors to bring recent operational experience back to the educational environment.

Summary of feedback

Discussions with QAO representatives across a range of schools and COEs revealed that as well as gathering feedback on the required external survey questions, there are a diverse range of approaches used to acquire external feedback on how educational outcomes are being realized in the operational environment. Many schools add targeted questions to the required questions to achieve more actionable feedback for curriculum improvement. In response to a core challenge of low response rates for graduates and their supervisors, institutions have turned to a convergent approach, utilizing several methods for obtaining feedback from the operational environment. As one respondent suggested, the external surveys serve as just one piece of a feedback "puzzle."

While this is summary is not an exhaustive survey of external feedback from either QAOs or other sources, the experience and expertise gathered from the participating representatives provides critical considerations in developing and implementing an external evaluation of the C5. These considerations are discussed in the next section.

Developing a C5 evaluation: Lessons Learned & Recommendations

Lessons from QAO discussions

The main goal of the C5 external evaluation is to establish predictive links between PME and the operational environment. This requires external measures that are quantitative, can be gathered systematically so they are representative, and can be demonstrated to link meaningfully to specific PME goals. Based on discussions with QAO representatives, a successful C5 external evaluation should address key challenges:

Address low response rate: The C5 evaluation can in part address the concerns of poor return rates by taking advantage of the fact that the Common Core is taught Enterprise-wide and therefore has an annual graduate sample of over 8000 per year. Even a return rate of 3- 5% would provide 200 – 400 respondents. However, sub-setting the data to examine the variability in responses across schools/COEs, components (Active Duty, Reserve and National Guard), or specific classes would reduce sample size accordingly. Thus, plans for a C5 external survey should consider suggestions from the QAO respondents to address apathy and survey fatigue, including making surveys short and convenient to take.

Develop actionable questions: The required QAO external survey questions provide high level feedback across all CCCs. Most of the schools supplemented the required questions with curriculum-specific questions, but emphasized the challenges in making sure that questions are

actionable and that there is a pathway for data to flow from the survey back to key stakeholders. C5 instruction covers general, doctrinally-based topics and is taught in a variety of contexts at the schools and COEs. Thus, it is a particularly difficult challenge to develop feedback questions that are concrete enough to be used in curriculum development, but general enough to be asked of graduates across the schools/COEs. This challenge may mean that an effective C5 external survey will require an iterative process to develop measures which can both identify general targets for improvement and account for important sources of graduate variability such as whether they have the opportunity to apply acquired knowledge.

Consider performance feedback measures*:* Many respondents reported getting feedback on graduate performance, such as from Army Lessons Learned following training events at NTCs. While respondents indicated that these additional measures were sought at least in part to compensate for low survey return rates, operational performance data could be particularly informative if it could be directly linked to performance measures from PME. However, QAO respondents highlight challenges in achieving these well-specified predictive relationships, in particular that feedback from training events may be too general and schools/COEs rarely have representatives to ask targeted questions. Thus, considering how a C5 evaluation could benefit from performance measures will necessitate identifying mechanisms to get C5 – relevant feedback. This could include seeking opportunities for Common Core-related feedback at existing training events. An alternative would be identifying outputs from officers that can be evaluated with respect to Common Core skills, such as examples of professional writing that can be assessed and related to C5 writing instruction. A related possibility would be developing new C5-related performance measures that could be garnered from a sample of graduates. While gathering targeted performance measures may reflect a gold-standard in feedback utility, this option is also likely to come with significant challenges in data access (for existing measures) or collection (for novel measures).

The advantages and disadvantages of a convergent approach: Many representatives reported using a convergent approach to external feedback, supplementing survey data with feedback from leaders who return for education or training, NTC events and other sources. This convergent feedback helped overcome the low return rates from graduate and leader external surveys, but also provides a range of data types for consideration. Taking a convergent approach could provide benefits to a C5 external evaluation by diversifying the available types of data. However, there may also be disadvantages to a convergent approach: first, more resourcing is needed to access and analyze multiple data sources, and second, using several smaller diverse datasets may undermine the goal of developing reliable predictive relationships between quantitative measures during and after PME.

Lessons Learned from other AURP projects

In addition to the information from QAO offices, there are three AURP projects that may contribute insights, methodological approaches or relevant measures for developing a C5 external evaluation:

(1) *Insights from wave-top measures of graduate feedback:* The Survey of the Army Learning Enterprise (SALE) is an annual enterprise-level survey which serves as an "an enterprise-level assessment of the relevance, challenge, and overall quality of professional military education (PME) and the Civilian Education System (CES) (For FY23 results, see Riley,

Stassen & Lauer, 2023). The SALE provides wave-top tracking of Enterprise-wide education; on its own it is not intended to provide the resolution in time or topics needed for ADDIE-relevant feedback for an individual course but can point to key trends in positive and negative feedback from graduates.

(2) *PME factors that may affect operational relationships:* The AURP project "Defining and Quantifying Rigor in Army PME" has produced a definition of Academic Rigor for use across the Army and provided rubrics for defining levels of rigor across and within PME courses. The *degree of academic rigor* provides a likely candidate dimension for predicting how PME instruction could have higher or lower operational impact. The available rubrics provide a means for testing the possibility that assessments that build on rigorously taught materials are those that are most predictive of post-graduate performance.

(3) *Method for developing targeted performance measures:* When considering the possibility of gathering operational performance measures in addition to evaluations, a problem with existing measures raised by QAO is that current performance measures do not explicitly measure PME outcomes. The AURP project "Tacit Knowledge Transfer" has developed an approach using a situational judgement task to assess high-level skills and synthesized knowledge across a range of skill levels. This approach may provide a useful framework for developing targeted and informative operational performance measures (such as situational judgement task) which do not require resource-intensive data collection (such as a training event).

Relevance to and recommendations for other Army-wide initiatives

A major challenge in developing the C5 external survey is establishing the *infrastructure* needed to reliably obtain feedback data. The aims of this project are related to those of other Army-wide initiatives which also require an infrastructure and set of practices for designing feedback requirements and collecting feedback data that connects stages of PME and professional development. The initial lessons learned and planned development of this project provides some relevant recommendations for these wider initiatives:

(1) OBME: Beyond the C5, principles and best practices for developing and refining predictive models can be applicable to other PME courses, improving the quality and availability of the post-graduate measures that are key for realizing the potential of an OBME approach. There are major unmet challenges in identifying the characteristics of informative post-graduate measures and systematically gathering the relevant data. Developing an infrastructure and principles for developing effective PME-graduate links is critical for realizing the potential of an OBME approach and for positioning Army University to make best use of opportunities to innovate while implementing OBME.

(2) CCC Modernization: As highlighted in Fortuna (2023), "…we should frame FY23 modernization initiatives as a part of an ongoing campaign for educational modernization." CCC modernization continues with plans underway for additional redesign for the C5 in FY25. In an environment of continual change, it is increasingly important to define evaluative frameworks, determine measures of success and define how we can track the effects of design changes. Establishing an effective feedback infrastructure helps assure that feedback is useable because it is timely and representative.

(3) Data Literacy: Army University and the Army more broadly have increasing emphasized the importance of data literacy and the use of data in decision making. While students and leaders can receive relevant training on data analysis and interpretation, valid data for decision making needs to be consistently gathered, representative, and targeted for the relevant questions. As highlighted in this paper, the requisite data may not exist. The potential benefits of data literacy require a commitment not only to using data effectively, but creating sources of useable data.
(4) The ALC and Learning Ecosystem: Collecting operational data to link back to C5 PME is one link in the chain of a learning continuum. It also highlights that a continuum connecting measures from multiple educational opportunities must also run through operational environments, including those both *before* and *after* PME opportunities.

Getting reliable feedback from the operational environment may require an underpinning cultural change that recognizes the meaningful connection between PME and operational performance and acknowledges that optimizing PME content provides significant benefit to the operational force. It is beyond the scope of this paper and project to provide recommendations for how leadership can support a culture of interactive feedback and encourage participation. However, the input received during this project suggests that (1) centralized efforts are needed to reduce survey fatigue while still allowing for targeted feedback; (2) mechanisms do not currently exist for identifying and communicating the importance of feedback to either leadership or to students and graduates – for example, by identifying how feedback has been used to improve curriculum; and (3) developing targeted evaluations is a non-trivial process that must be resourced. While time and money are at a premium, the inefficiencies inherent in collecting imprecise or unusable data should be considered; likewise, investing in data collection that provides useable feedback may save resources downstream by optimizing the outcomes of PME.

Summary & Conclusions

There are significant challenges to establishing reliable predictive relationships between PME outcomes and operational performance. However, this goal is critical not just for C5 modernization; it sits at the center of Army-wide initiatives to institute OBME across PME, increase data-centric approaches to curriculum development, and establish a learning ecosystem that supports a continuum of career-long learning.

This paper represents a small corner of these broader issues, gathering lessons from QAO efforts across the CCC schools/COEs that can be used to design effective C5 external feedback. The approaches at the different schools and COEs provide invaluable insight into both potential approaches and the pitfalls and challenges of getting external feedback. Along with insights from other recent and ongoing AURP projects, these lessons will be applied to inform an ongoing research effort to link PME and operational outcomes in the CCC Common Core.

The conceptual links between this effort and broader Army-wide initiatives highlights the need for this bottom-up project to be met with top-down leadership involvement to establish a feedback

infrastructure, which can support the evaluations and assessments needed to achieve the data-driven goals for Army modernization.

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