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Assessing and Inspiring Lifelong Learning in an Undergraduate Environmental Engineering Seminar

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Introduction

Developing lifelong learners is an often-stated goal of higher education institutions and professional organizations. The ability to develop and master a specific body of knowledge is a common attribute of both academia (peer-review discipline activities) and professions. The contribution of lifelong learners is paramount to the success of these institutions. The United States Military Academy at West Point presents a unique opportunity to blend the development of lifelong learning in our graduates in both their identity as an undergraduate engineering student and a member of the profession of arms. The West Point Strategic Plan (2015-2021) explicitly identifies that the development of professional engineers and Army Officers is not mutually exclusive. The two goals are specifically outlined in Strategic Goal 3 (Develop Exceptional Intellectual Capacity).[1] This goal states that:

- USMA [West Point] is consistently recognized as a top-tier institution of higher education in competitive national rankings.
- USMA [West Point] is valued by the Army and the Nation as a trusted source of human intellectual capital used to address issues of significant importance.

Within this strategic statement is the intent for each individual to demonstrate the competence to achieve and demonstrate excellence in both their chosen academic discipline and the profession of arms. The West Point Model can be understood as the balance of the goals of the West Point Leader Development System (WPLDS) across the Academic, Military, Physical and Character Development Programs.[2] The Overarching Academic Goal is supported by the seven Academic Program Goals (APG) as shown in Figure 1. The APGs specifically state “Demonstrate the capability and desire for Lifelong Learning” as one of its seven goals.[3] Achieving this academic goal clearly supports the WPLDS goals: demonstrate intellectual competence (WPLDS #2); think critically and creatively (WPLDS #4); and pursue excellence and continue to grow (WPLDS #8).

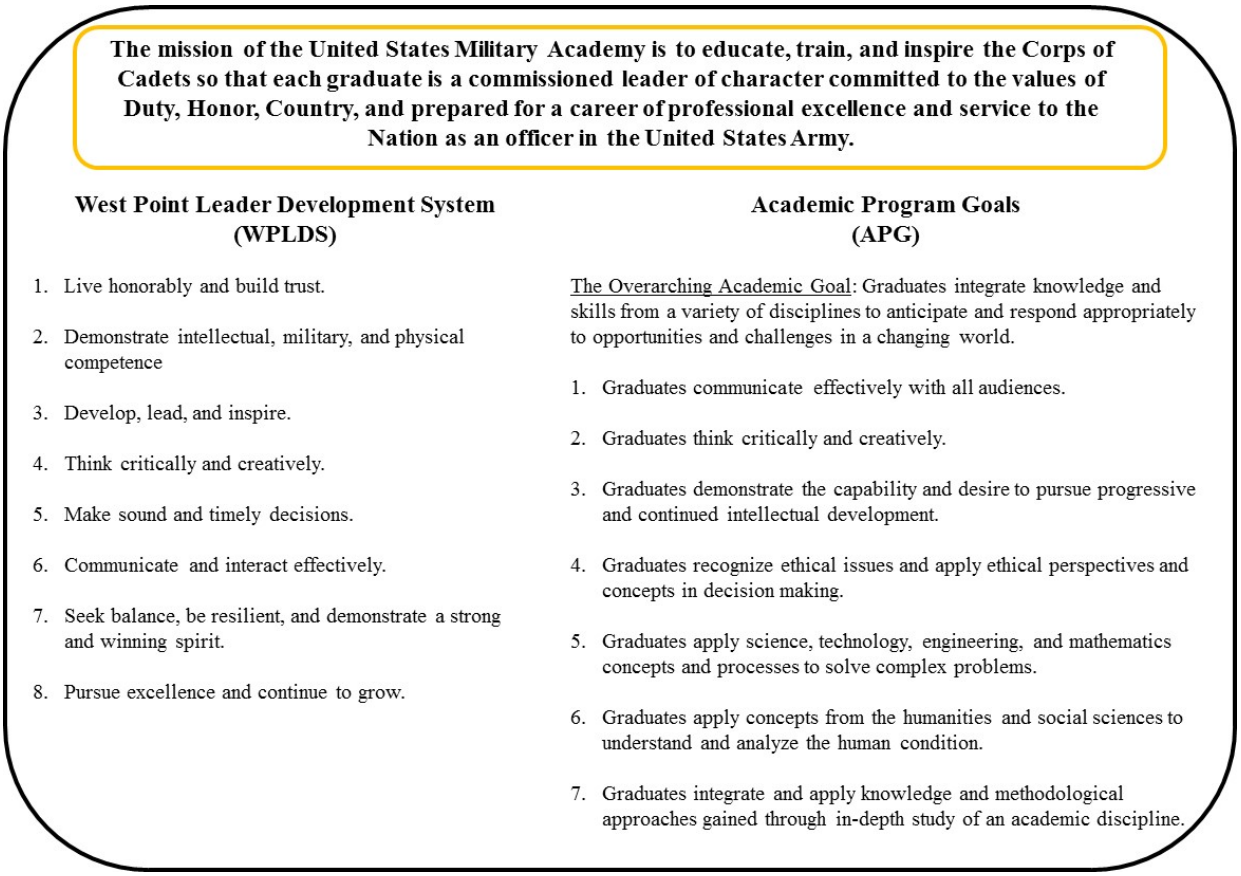

Figure 1. The West Point Mission, WPLDS, and APG Model.

Background

Army Leader Development Doctrine

The development of Officers for the United States Army follows the Army Leader Development Model.[4] Figure 2 outlines the intersection of the "Lines of Effort" [Training, Education, and Experience] and the Development Domains [Institutional, Self-Development, and Operational]. This model blends the experience, education and training that contributes to gaining and applying knowledge. The 47-month experience at West Point offers the opportunity to enhance the education of engineers within the institutional domain. The development of lifelong learning skills in this setting will further enhance young officers' development within the operational and self-development domains throughout their careers.

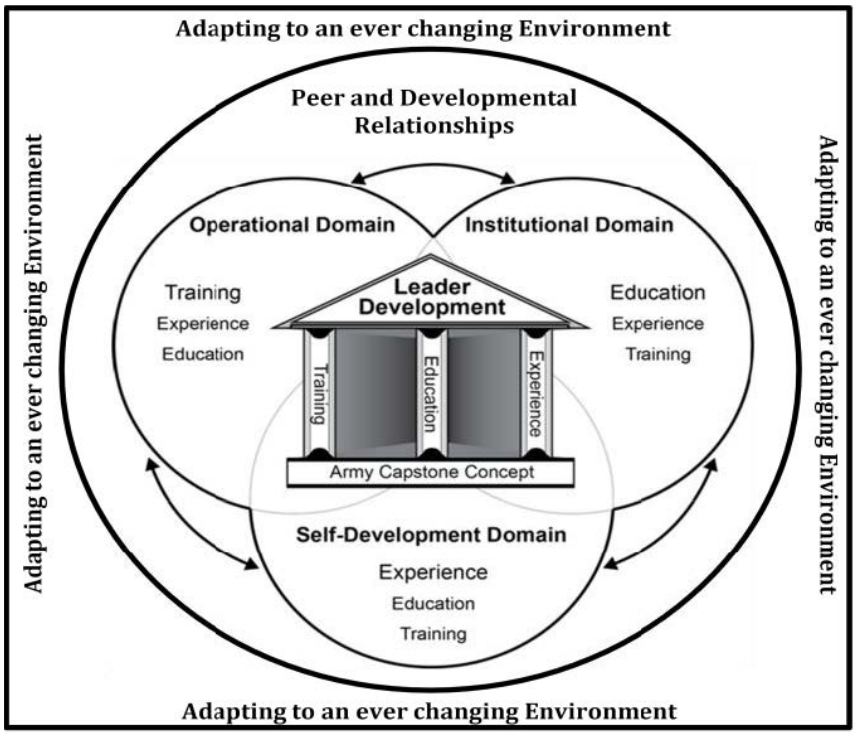

Figure 2. The Army Leader Development Model[5]

Lifelong Learning

So, how can we foster the development of the skills requisite to become a lifelong learner? How will we know if our graduates are achieving this? Both of these questions were debated within the environmental engineering curriculum. We recognize that students will not become lifelong learners as a destination. Furthermore, we concede that we cannot fully assess a level of lifelong learning upon graduation—this is often the result of longitudinal and post-graduation surveys. We hypothesized that we might foster some of the requisite skills through our senior seminar course that would increase the likelihood of our graduates becoming lifelong learners.

A review of the literature on lifelong learning revealed at least four main functions:

1. The preparation of individuals for the management of their adult lives
2. The distribution of education throughout an individual's lifespan
3. The educative function of the whole of one's life experience
4. The identification of education with the whole of life[6]

Within this context, "the whole society becomes a learning resource for each individual."[6] Thus, lifelong learning is a desirable outcome for every individual in society. As educators, we hope to inspire students to be curious and instill in them a desire to continue learning beyond the classroom walls. "Lifelong learning takes, as one of its principal aims, equipping people with

skills and competencies required to continue their own 'self-education' beyond the end of formal schooling."[7]

Within the Academic Program at West Point, lifelong learning is defined as "Graduates demonstrate the capability and desire to pursue progressive and continued intellectual development."[3] The "What Graduates Can Do" (WGCD) statements that support this are outlined as:

1. Demonstrate the willingness and ability to learn independently.
2. Engage successfully in deliberate self-directed and collaborative learning experiences.
3. Pursue self-awareness and embrace the responsibility for personal intellectual development.
4. Pursue knowledge in areas of personal or professional interest.[8]

ABET Criterion

Lifelong learning is a required academic and developmental goal of many universities and for all ABET accredited engineering programs (ABET Student Outcome i: a recognition of the need for, and an ability to engage in lifelong learning).[9] However, of all of the goals and outcomes of an academic curriculum, lifelong learning is one of the most difficult to evaluate and a metric for assessment is in high demand. In EV400, Environmental Engineering Seminar, the faculty at West Point developed a technique to both assess, evaluate and inspire student lifelong learning in a one-credit seminar course.

Ownership and Motivation

While developing the lifelong learning activities, the faculty tried to incorporate the importance of student ownership and motivation. This focus stems from the findings of a West Point commissioned external review panel in 2012 that reported, "It [the use of class rank] inadvertently replaces the valuable intrinsic motivation for learning with the flawed extrinsic motivation of optimizing their grade point average."[10] With respect to ownership, Pierce (2004) highlights that psychological ownership will address (1) self-identity, (2) sense of 'mine' and also a sense of 'ours', and (3) control, intimate association, and immersion of self (investing) into the target of ownership.[11] Thus, the greater the student perception of control over the class environment, the greater sense of ownership. The role of intrinsic motivation relies upon autonomy (control of tasks), competence (mastery of the tasks), and purpose (connection to something greater than one's self).[12] In a recent study of West Point Cadets, Wrzesniewski, et al.[13] found that cadets who showed high levels of internal motivation as Plebes [freshman] had higher levels of graduation and commissioning, service beyond the required time, and early selection for promotion. When there was evidence of instrumental (extrinsic) motivation, this effect was diminished.

Approach

Seminar courses are common in universities across the United States and can be designed in a variety of ways. Seminar formats can range from a “passive” participant (e.g. lecture series) to a more active role (e.g. learning community or research group). In lecture-based seminar courses, the goal may be to expand student interest or exposure to an emerging technology or relevant issue within the field. The learning community model is often designed to serve as the “seed” to encourage further learning in areas that interest the participants, while simultaneously allowing students to engage with the topic in more depth. Assessing lifelong learning in lecture seminar courses can be confounded by the need to impose more structure in order to assess the effectiveness of the learning community and may not inspire lifelong learning.

West Point Environmental Engineering Seminar

Our Environmental Engineering Seminar is described as follows: “the seminar will meet once each week and will include all seniors majoring in environmental engineering. The seminar topics will address a variety of fundamental engineering science, design, and professional practice topics including engineering ethics, economics, and licensing. Periodically, guest lecturers from the military, industrial, and academic communities will provide their perspectives on these topics.”[14] One of the course outcomes is to have “Students engage in lifelong learning” (course outcomes appear in Table 1). A concept map of the seminar activities, showing our four-pronged approach to support the four WGCD statements, is shown in Figure 3.

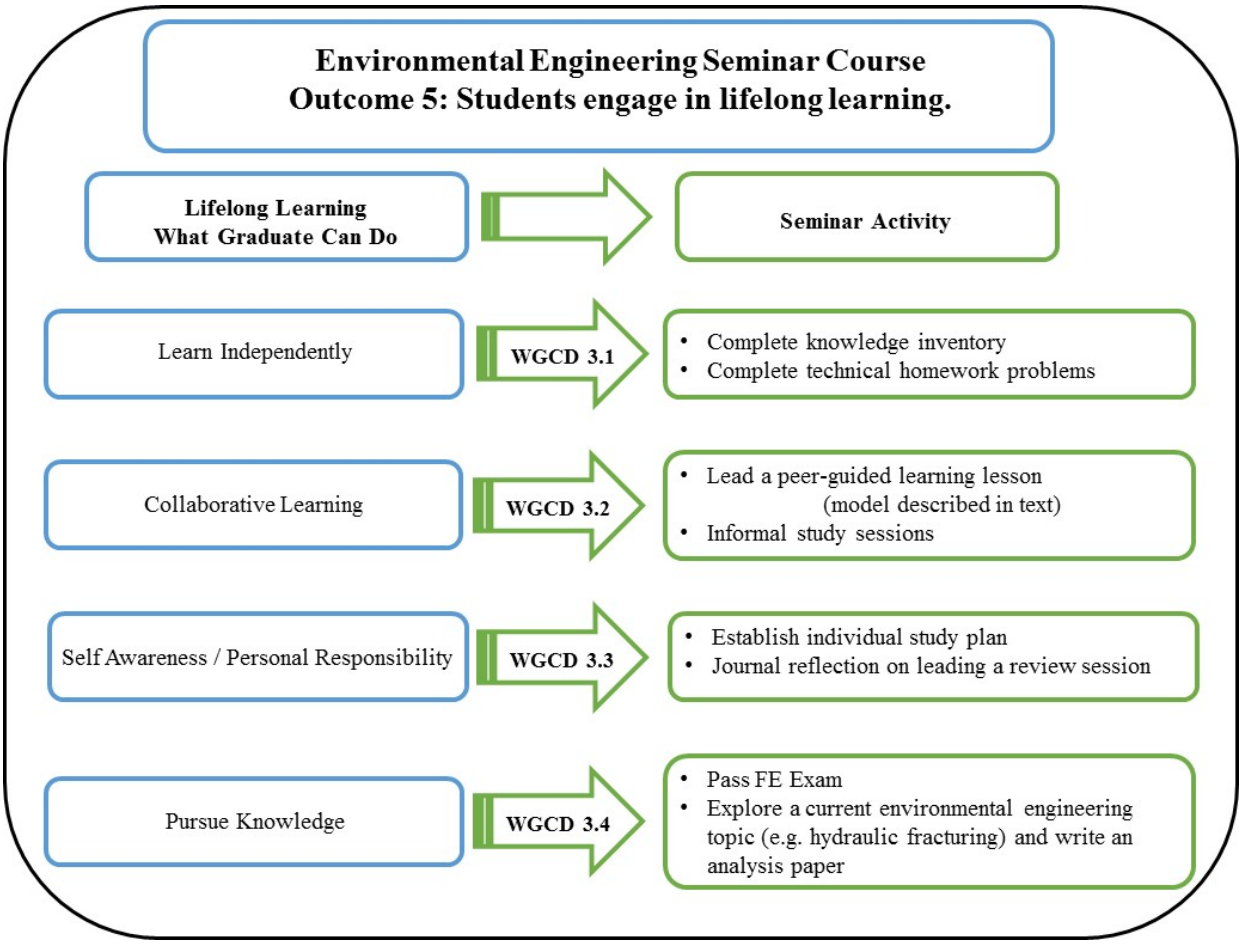

Figure 3. Environmental Engineering Seminar Activities mapped to WGCD 3—Lifelong Learning.

The Environmental Engineering faculty developed the seminar to be as student-centric as possible. It was purposefully designed for students to achieve short term goals that will enhance development of engineering skills and be structured around activities that are similar to tasks that junior Army officers often complete. Table 1 displays the linkages between the course activities and the higher objectives they satisfy. For example, the "current issues journal" supports ABET Student Outcome j, knowledge of contemporary issues, along with WGCD 3.4. In order to ensure more ownership and motivation and the positive correlation to service as an Army Officer, the structure of the seminar emphasized (1) **choice** (more opportunities to accomplish tasks with different techniques and time), (2) **purpose and intimate association** (enable students to track their development with regards to achieving the task), and (3) **immersion** (integrate concepts from across the environmental engineering curriculum to be expanded and developed in further depth or application).[15]

Table 1. Mapping of Embedded Indicators to ABET Outcomes and Institutional Goals.

Embedded Indicator	Course Outcome	Student (Program level) Outcome	APG Linkage
Study Plan—10% Practice Exam—20% **TOTAL**—30%	1. Develop short-term and long-term professional goals, to include continuing education and professional registration	(a) professional and ethical responsibility	WGCD 3.3
HW—7 @ 5% **TOTAL**—35%	2. Reinforce concepts supporting the fundamentals of engineering		WGCD 3.1
Journals—2 @ 7.5% **TOTAL**—15%	3. Communicate effectively in writing		APG 1*
Issue Journal—7.5% **TOTAL**—7.5%	4. Enhance student ability to think critically	(j) knowledge of contemporary issues	WGCD 3.4
PGL—12.5% **TOTAL**—12.5%	5. Students engage in lifelong learning	(i) recognition of the need for, and ability to engage in, lifelong learning	WGCD 3.2

*Academic Program Goal 1: Graduates communicate effectively with all audiences.

Peer-Guided Learning

Students were grouped together (typically in pairs) to lead a review session. The assigned topics were selected from the Fundamentals of Engineering (FE) exam specification for environmental engineering, but primarily those topics not familiar to the students or from courses covered much earlier in their studies. Beyond delivering a lesson on a topic, the peer instructors for that lesson had to research a relevant current event or emerging technology in the field related to the material. Examples of such topics discussed during the spring term of 2014 were carbon dioxide sequestration technologies and microbial remediation of pollution.

The peer-guided learning lesson was organized with the following phases, with each phase given a "window" within which the tasks must be completed.

I. **Prepare (until 10 days prior to assigned lesson date)**.
Students review the National Council of Examiners for Engineering and Surveying Fundamentals of Engineering Reference Handbook and relevant course material to become the "Student Subject Matter Expert," develop a tentative outline, coordinate with a designated faculty mentor, and research a novel application.

II. **Coordinate (3 – 10 days prior to lesson)**
Students present a lesson outline to the faculty mentor, receive advice on leading an efficient and effective review session, refine the plan, and rehearse the classroom activities.

III. **Execute (during the class period of the lesson)**
Students lead an instructional period on the selected topics described above. Student performance is evaluated by the instructor and mentor. Performance expectations can be found in Appendix 2.

IV. **Reflect (within one week after the lesson)**
Students review their performance through a written reflection due the following week. Emphasis is placed upon determining how helpful the review period was for their peers and how the experience of teaching will benefit them in their future career as Army officers.

Assessment

Assessment of peer-guided learning was conducted via feedback from each student throughout the 4 phases of execution and an overall course assessment. Student feedback included observations from the faculty mentor and student self-reflection. Mentors graded the peer instructors in two phases. The first was the planning and preparation, where the mentor was available for assistance and received a full rehearsal of the lesson that the students would peer-teach. The mentor based this grade on the amount of prior preparation the students completed before the initial meeting, and their ability to make effective alterations to the plan based on the mentor's feedback. After the rehearsal, the mentor made final recommendations. In the second graded portion, the mentor witnessed the students' peer-guided learning lesson and conducted a final assessment based on their final period of instruction and the implementation of earlier recommendations. Included in the mentor's second evaluation was assessment of a short reflection paper (Phase IV) where the leaders of the peer-guided learning lesson reflected on the lesson they taught, how well it went, and the role it would play in their future careers.

Both indirect assessment (an indicator of perception of outcome attainment) and direct assessment (an embedded indicator of performance in outcome attainment) are used to assess course outcomes in our program. Because both types of data are important, all outcomes are evaluated using an overall assessment score, which is based on indirect data from surveys (Likert scale) and performance based (embedded) indicators. The indirect score is based on a scaled assessment (1 – 5 Likert scale) made by the students at the end of the course, using the web-based end of course feedback system, and the instructor. The students and instructor review each course outcome and determine to what degree students can perform each outcome: strongly agree (score of 5) to strongly disagree (score of 1). The grade based assessment for each course outcome is typically based on embedded indicators (Table 1) that sum to at least 5% of the total course grade. Final embedded indicator scores are based on a weighted (using point value) average and converted to a scale of 1 – 5. The overall course indirect score is the mean of the student response, weighted 60%, and the Course Director/instructor response, weighted at 40%. An overall assessment is made by combining the indirect and performance-based assessments. The performance-based assessment is weighted 80% and the indirect-based assessment is weighted 20%. A final score of greater than four is considered acceptable. Refer to Table 2 for an example of this methodology applied to the Environmental Engineering Seminar course, and see the overall course outcome scores for lifelong learning for the past three terms in Table 3. Select student comments from end-of-course survey questions are found in Table 4.

Table 2. Course Outcome assessment results for EV400, Spring 2015. All scores are based on a 1 – 5 Likert scale with a score of 5 being excellent or most agreeable.

	Course Outcome	% of Course Points (A)	Stud. Score (B)	Instr. Score (C)	Indirect Score 0.6 B +0.4 C (D)	Direct Score (E)	Overall Score 0.2 D + 0.8 E (F)	Prev. Year (G)
1	Develop short-term and long-term professional goals, to include continuing education and professional registration	30%	4.20	4.00	4.12	4.51	**4.43**	**4.17**
2	Reinforce concepts supporting the fundamentals of engineering	35%	4.33	4.25	4.30	4.51	**4.47**	**4.31**
3	Communicate effectively in writing	15%	3.78	4.00	3.87	4.76	**4.58**	**4.28**
4	Enhance student ability to think critically	7.5%	3.78	4.00	3.87	4.64	**4.49**	**4.24**
5	Students engage in lifelong learning	12.5%	3.74	4.00	3.84	4.43	**4.31**	**4.33**

Table 3. Longitudinal view of overall assessment of the lifelong learning outcome in the seminar course (outcome 5). Scores are based on a 1-5 Likert scale with a score of 5 being excellent or most agreeable.

Term	No. of Students	Score
Spring 2013	17	4.44
Spring 2014	14	4.33
Spring 2015	15	4.31

Table 4. Select anonymous student comments from end-of-seminar evaluations.

Comment on two strengths of this course in supporting your overall development academically.
"Students were responsible for their own learning. Topics were chosen well and interesting to discuss." (2013) "Lots of personal responsibility to learn on your own. Required you to manage time well." (2013) "Gave me time to prep for the FEE. PGLs gave us an opportunity to practice teaching, briefing, and learning on our own." (2013) "Taught me how to teach classmates and study on my own." (2014)
Comment on two areas of this course where you would make improvements to enhance learning.
"PGLs only helped the people that taught the class…." (2013) "No journals. Have more teacher taught material…." (2013) "There wasn't a lot of instruction—it was very self-taught." (2014) "Journals." (2015)
What is one change you would make to improve this course in the future?
"I would make the teaching groups a little larger (maybe four or so) so that you can teach more than one lesson. Teaching them really drove home the concepts…" (2013) "No more journals. I got nothing out of them and had zero motivation to do them." (2014) "Stop the class after the FEE. You're not getting effective or genuine work after that point anyway, so there's no real good reason to force us to come to class." (2014)
For you, what was the best aspect of this course?
"Peer-guided lessons" (2013) "Teaching a lesson." (2015)

Discussion

The overall course outcome scores for lifelong learning for the past three terms, shown in Table 3, indicate that this outcome has been satisfactorily achieved according to our program standards. In each of the three terms, the student-provided score was slightly lower than the instructor assessment and the objective score from the embedded indicators. It is possible that students may not understand how the course activities support the cultivation of lifelong learning. As we seek to enhance this aspect of our program, we should start by improving our communication to students of what lifelong learning is, why it is important, and how our seminar will develop it.

End-of-course surveys (Table 4) also provide assessment information through student comments. Broad themes emerged from the past three years of this feedback. Students valued the responsibility placed on them to learn their assigned topics and lead review sessions. They perceived that their learning was very effective on the topics that they taught; therefore, some students suggested that offering more opportunities to lead review sessions would be a way to improve the course. Other comments demonstrate, however, that some of our students were more concerned about short-term benefits rather than long-term educational goals and may be slow to develop into lifelong learners.

The suggestion to provide more review sessions highlights the importance of class size on the PGL model. Increasing enrollment causes the review teams to increase in size, with a division of labor which could dilute the teaching experience. West Point generally constrains section size to 18 students; other institutions would enroll many more in a single section. How would the PGL experience change in a larger population? The engagement of the students leading the review session is a critical element. If group sizes must enlarge in order that all students have the responsibility of teaching their peers, then the group could split up and target portions of the larger class body during the review. For example, a class of 90 students with ten topics to be peer-taught would have groups of nine. Each of the nine presenters during a given session could facilitate breakout discussion with nine students from another group, collectively addressing the entire class.

Student journal submissions and study plan assessments provided further feedback. Upon reflection, students acknowledged how difficult it was to stick to their plans to prepare for the FEE with all of the other demands upon them. Many would have made different decisions about the use of their time if they had the opportunity. Near the end of the semester, students considered how what they learned about themselves, while preparing for the FEE, could help them in the future as they pursued a graduate degree or professional licensure while simultaneously balancing their careers as officers. Many realized that without the structure provided by the Environmental Engineering Seminar, they would need to rely upon their internal discipline and motivation to succeed in those endeavors. Their acknowledgement of the importance of lifelong learning to their future goals may indicate that they progressed in their knowledge of that topic.

As we evaluated attainment of course outcomes, we considered some of the negative course feedback, in which some students expressed impatience with the assignments, such as the journals—especially those not directly related to the FE Exam. It appears that these students did not conceive of the seminar as anything more than exam preparation, which likely contributed to the lowered student assessment of the lifelong learning outcome, (Table 4). One change we made to the journal assignments involved reflecting on the FE Exam preparation process rather than on a guest lecture. Although this revised topic connected with our lifelong learning focus, the journal assignments continued to garner negative comments, suggesting that some of our students have not adopted some of the course outcomes as their own. An enduring question in academics is, “how to instill the desire to learn when there is no grade-related incentive?” We argue that our course is helping students move towards that goal.

Many of the subjects that our graduates will have to teach their soldiers or brief their superiors, in the Army, may not have been introduced at West Point or other Army schools (i.e., the institutional domain). In addition, these young officers may not have been exposed to these subjects in an on-the-job setting (the operational domain). Consequently, the Army requires its leaders to use their self-development and lifelong learning attributes to prepare themselves for these challenges, which will include, among other tasks, leading professional development

sessions, writing position or staff decision papers, and completing correspondence courses. The observation that students clearly perceived the connection between the teaching experience and what they will do as Army officers suggests that we are supporting development in this area.

Conclusion

The mission of the United States Military Academy at West Point involves educating, training, and inspiring our students. The Environmental Engineering Seminar contributes to this mission for students in their final semester before graduation. Student leaders educate peers on the principles of engineering, which augments the military training students receive through sharing their experiences, and inspires them to take ownership of their own development. By sowing the seeds of lifelong learning, we help to achieve the Academy's goal to produce leaders who will serve the Nation both in and out of uniform.

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Appendix 1: Environmental Engineering Seminar Lifelong Learning Model

Lifelong Learning

The ability to continue learning after graduation is a crucial skill for both engineers and Army officers to possess. Both professions work towards the public good solving problems in dynamic environments and a world characterized with great change. In order to be successful, one must be able to adapt to new concepts that advance the basic principles and "first laws" taught in the typical undergraduate experience.

Generic Model

Seminar students will be given responsibility to lead a learning activity. The intent is to develop an opportunity for students to plan, resource, rehearse, execute, and reflect upon a lesson that will require them to link "baseline" knowledge with advanced and current concepts. The lifelong learning skills should grow from the leading of a learning group to reinforce the understanding of these concepts and then link them to new applications.

Mentor-Student Relationship

The EV400 activity will be a sequential process that will follow specific milestones within a phased approach under the direct mentorship of an assigned faculty member. The faculty member will have requisite technical experience within that topic field and will typically not have taught the course to the students (in order to apply a different perspective to the material). The communication between the faculty and student is critical to provide opportunities for dialogue and growth as well as ensure the learning event is of the highest quality possible.

Desired Outcomes

- Promote personal growth as ownership for learning is being placed upon the student
- Peer learning will enhance an exchange of information between cadet groups
- Detailed depth of preparation will enhance learning
- Provide more context through current trends and research reported in the literature
- Time management—plan and execute all phases
- Communication skills—oral and written

The Problem Statement

Students will be assigned a specific topic that will be based upon either a "subject" (e.g. thermodynamics) or "medium" (e.g. air pollution) from which to develop their seminar. Students will be given a detailed letter of instruction that will define the expected deliverables.

The Phased Approach

Phase 0—Initial Assessment and Action Plan [30% of seminar grade]

Each cadet will be administered an initial assessment to establish their baseline knowledge level. This will be conducted with dedicated class time and homework. Students will be provided feedback with which to assess their performance relative to the material, specific topics, and their peer group. Students will then be required to submit a detailed plan that will include identifying areas of relative strength and opportunities for the most improvement, setting weekly goals, organizing peer-study groups, and consulting instructors.

Phase 1—Plan and Resource [5%] **Time Period**: 3-10 days prior to assigned class

During this time, students will develop an outline of how they will utilize the class period as well as the learning activity they will use to assess peer learning. As part of the class, students will:

- review key concepts (~10 minutes of student led review),
- demonstrate critical relationships (~10 minutes of student led problem solving),
- conduct a learning activity (~20 minutes of individual activity), and
- integrate an advanced or current application (~10 minutes of student led discussion).

The detailed description and review of each area specified above will be discussed during the student-mentor meeting. Students will develop an initial plan prior to this meeting.

Phase 2—Rehearse [2.5%] **Time Period**: NLT 3 days prior to assigned class

A second meeting will occur between the student-mentor team. During this meeting, all items to be used by the students in the conduct of the seminar will be submitted to the mentor. The students will complete a full timed (55 minute) rehearsal to demonstrate the appropriate mastery level prior to delivering the seminar. The mentor, in preparation for the seminar, will work all problems. The critical points for this event are to ensure the planned activity is presented in an error-free manner and within the strict time requirements of a single class period.

Phase 3—Execute [4%] **Time Period**: 55 minutes

A separate rubric will outline specific areas of focus. Critical to the execution of the seminar will be completing in-class activities to identify student mastery of the topic areas as well as an assessment activity. It is important to provide all students feedback during the class period.

Phase 4—Reflect [1%] **Time Period**: NLT 3 days after assigned class period

Critical to lifelong learning is the understanding if the material was linked between “baseline” knowledge and more advanced or current topics. Seminar leaders will write a 1-page reflection that addresses their preparation, delivery, and application of the knowledge.

Appendix 2: Student Instructions for Peer-Guided Learning Lesson

Upon receipt of this mission, cadets are empowered to begin preparations as soon as possible.

Phase 1—Prepare to become the CSME (Cadet Subject Matter Expert)

Time Allocated: Receipt until Execution − 10 working days

Specified Tasks for Cadets Leading Reviews

Cadets will continue their self-development and prepare class materials.

a. Read the applicable chapter in the Kaplan FEE Review Manual and applicable equations from the NCEES FE Reference Handbook.

b. Read and review notes from applicable previous courses.

c. Review solutions to problems from Kaplan review book and course texts.

d. Develop outline for PowerPoint slides or board notes of most important and relevant theories to include

(1) Common pitfalls to be avoided when solving these problems
(2) Problem solving techniques and strategies that can save time
(3) A list of types of problems to be covered
(4) Locate an advanced or current application of the topic for class primer

e. Email faculty mentor to facilitate a meeting NLT 10 days prior to execution.

f. Locate an advanced or current application of the topic for class primer.

Resources available: Mentors will have the ability to print handouts or make photo copies upon request. Access to slide shows from previous review sessions for review purposes can be made available upon request.

Endstate: Cadets have fully reviewed the assigned topic. Cadets are prepared to meet with faculty mentor for the first time and possess a strategy for the review.

Phase 2—Plan—Meet with Faculty

Time Allocated: Class (C) − 10 to C − 3 working days

Develop problems with solutions (about 40 minutes' worth) to be presented in class. These problems should cover the major concepts and learning objectives of the relevant theories associated with the topic. Problems should be given as a handout for cadets as well as on a PowerPoint slide or boards for in class execution. Problems should be designed so that:

- some are knowledge-based review
- some can replicate "number crunching" type

- some can be used to replicate test conditions

A recommended outline for the class is as follows:

- review key concepts (~10 minutes of student led review),
- demonstrate critical relationships (~10 minutes of student led problem solving),
- conduct a learning activity (~20 minutes of individual activity),
- integrate an advanced or current application (~10 minutes of student led discussion), and
- introduce an out of class learning assessment (~5 minutes).

Cadet teams should plan to meet with their faculty mentor NLT 10 days prior to class execution to review their lesson plan. Cadet teams will conduct class "full dress" rehearsals with mentor NLT 3 days prior to class.

Endstate: a well-developed and rehearsed plan is ready for execution

Faculty mentor gives the "certification" to lead the session. Rehearsals will be graded as an A, B, or F. An F would be grounds to resubmit and re-certify with the highest possible grade of a C once the team has received a go.

Phase 3—Execute

Time Allocated: C-day: 55 minutes

Endstate: Cadets cover the topics planned. Cadets provide an overview of the subject and effectively use cadet time to solve problems and review concepts.

Phase 4 – Reflect

Time Allocated: C + 3 days

Cadet teams will review the entire process from prep, plan, rehearse, and execute. Cadets submit a reflective essay on two events that went well and two events that need improvement. Length of paper should be a minimum of one page double spaced. Answer the following questions:

a. What value did you get from leading this lesson?
b. How does this correlate to being an Army officer?
c. How well do you think your peer students benefited?
d. How do you know that?

Endstate: Cadet will evaluate two things that went well and two things that need improvement. Cadets reflect on their experience to gain insight and perspective on what they have gained from this process. Finally, they evaluate the impact their review was for their peers.