

Rethinking the Role of the Instructor: Teaching 21st Century Learners

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ABSTRACT

A major paradigm shift is underway according to *Transforming American Education: Learning Powered by Technology* (Office of Educational Technology, 2010), *The Horizon Report – 2010 Edition* (Johnson, Levine, Smith, & Stone, 2010), and the recently published *Army Learning Concept 2015* (U.S. Army Training and Doctrine Command, 2011). Each describes a technology-enabled learning environment where the individual creates and consumes learning content in a self-directed way. At the same time, the skills required for the 21st century, particularly in a military context, emphasize applying critical thinking skills in dynamic and ambiguous environments. How do we select, prepare, and coach the instructors who will be responsible for managing this new learning environment? Implementing this learner-centric classroom goes well beyond blended learning; it means instructors play a very different role and will need a different set of knowledge, skills, and attributes to be successful. Our paper focuses on developing the instructor and provides a roadmap that institutions can use to select and prepare teachers of the future. We begin with a comprehensive literature review of both 21st century learner needs and current ways to prepare instructors to teach and manage a complex and high-tech classroom. We provide a case study that stands as an example of one group of innovative faculty who has changed the dynamics in its classroom and is achieving impressive results. We provide a set of tools and approaches that can be replicated at any military or corporate education center. Finally, we provide a matrix of tools and approaches that facility members may draw upon to improve the hands-on experiential nature of their classrooms. Our research goal is to provide instructors and those who teach and develop instructors a roadmap to effective 21st century teaching approaches and a toolkit of resources that can be applied to achieve different levels of cognitive development.

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RETHINKING THE INSTRUCTOR'S ROLE IN A CHANGING LEARNING ENVIRONMENT

The Army and other branches of military service are transforming their training and education to better develop 21st century competencies. The 21st century skills that are becoming most important are thinking critically and making judgments; solving complex, multidisciplinary, open-ended problems; creativity and entrepreneurial thinking; communicating and collaborating; and making innovative use of knowledge, information, and opportunities (Partnership for 21st Century Skills, 2009, p. 10).

In March 2011 the U.S. Army published the Army Learning Concept (ALC) 2015, which identifies the Army Learning Model (ALM) being spearheaded by the U.S. Army Training and Doctrine Command (TRADOC). Developing critical thinking and problem solving skills for ill-structured problems is the focus of the ALM (U.S. Army Training and Doctrine Command, 2011). An important aspect of the model is moving from an instructor-centric to a learner-centric environment, where the individual creates and consumes learning content.

At the same time, the learning environment is changing with the introduction of technology in the classroom. Web 2.0 and social networks are enabling novices to connect to experienced peers and experts, thus helping them make sense of the context and build new mental models that account for the changing nature of the real world (Prevou & McGurn, 2010).

Research indicates that simply infusing technology into education does not suffice (Gomez, Gomez, & Gifford, 2010). Optimizing student learning in this technology-enabled environment requires training in the technology and also the pedagogy (Ragsdale, 2011).

Developing and refining 21st century competencies in this environment requires new competencies on the part of the learning institution, learners, and instructors/training developers.

Learning institutions must...

- Provide the content for learning.
- Provide academic freedom for instructors to use a multitude of tools, technologies, and andragogy to achieve learning objectives. The old approach of Training Support Packages (TSPs) is long gone.
- Provide both tools and the training for a blended learning environment. Training must be continuous and best practices shared.
- Identify the master instructors for each approach and let them train others. This includes developing new learning strategies centered on digital technology and face-to-face interaction.
- Provide ways to identify and celebrate approaches and techniques that are working, and provide a deliberate approach to disseminate these approaches and train other faculty.
- Focus on adult learning using an experiential learning model. Teaching small groups with large group pedagogy in a lecture style environment is still a common occurrence. Institutions must ensure the faculty understands how to develop lesson plans and determine learning outcomes effectively.
- Improve the way we develop faculty.
- Select faculty more carefully.

Learners must...

- Share responsibility for their learning, developing lifelong learning skills. This includes continuous self-assessment to identify gaps in knowledge and skills.
- Develop the skills to understand, assess, and adapt to ill-structured situations where ambiguity and stress will dominate.
- Be adaptive and master the art of rapid continuous learning.

- Have awareness of what they know, understand how they know it, and be able to manage their cognitive resources.
- Select learning strategies and monitor their effectiveness.

Instructors must ...

- Understand how adults learn. Master the theory and practice of adult education.
- Engage students in productive metacognitive strategies about their own learning, and place some learning decisions and activities in the hands of students that were formerly determined by the instructor (National Center for Biotechnology Information, 2010).
- Evolve their role into one of facilitator, guide, mentor, or coach, which will require its own set of instruction and tools and new competencies (Prevou & McGurn, 2010).
- Understand Bloom's Taxonomy and how to move the learner from one level to the next. Our experience is that about half of the instructors understand the taxonomy and less than 20 percent understand how to achieve higher levels of development within the framework of their lesson plans.
- Learn and employ new learning strategies centered on digital technology and face-to-face interaction, such as virtual apps, simulations, games, and communities of practice (CoPs).

NEW REQUIREMENTS FOR TEACHING 21ST CENTURY LEARNERS

Educators and trainers are challenged to select the right methods to distribute instructional content (Holden & Westfall, 2010). Selection of instructional media is not intuitive, nor a matter of personal preference. Factors that should be considered for selecting instructional media include:

- Knowledge and skill gaps (for learner and instructor)
- Complexity of content
- Rate of content change
- Level of learning objectives

The instructors, curriculum developers, and QA/QC personnel will all need the skills to design a learning environment that facilitates learning and then apply different instructional strategies. The learning environment can be synchronous or asynchronous, symmetrical or asymmetrical, blended, distance or face-to-face. With the new technologies available today, mixing these methods is easier than ever before and

creates increased learning opportunities across more learning styles. Variables to consider in learning design include interaction, collaboration, reflection, content delivery, learner's cognitive level, type and level of interactivity, the frequency of content change, content complexity, and the level of cognitive objectives (Holden & Westfall, 2010).

In a symmetrical learning environment, where the flow is interactive and evenly distributed between learners and instructors, the instructor can incorporate collaborative tools like wikis, blogs, or discussion boards to support "active learning and knowledge construction through peer-to-peer interaction" (Holden & Westfall, 2010, p. 18).

The instructor must have the technological literacy and pedagogical knowledge to apply knowledge-building principles to develop the optimum learning environment. These principles include idea diversity, community knowledge, constructive use of authoritative sources, and knowledge building discourse (MacKinnon & Aylward, 2009).

Instructor/Faculty Development

Since military instructors usually have had little teaching education, faculty development programs are a vital resource for supporting successful learning outcomes. Our position is that faculty development for all courses and all levels must be more robust. The traditional hand off of a slide deck to the incoming instructor with a few hours in an instructor training course has proven insufficient to meet the needs of a 21st century learning environment.

Training in technology is a critical component of faculty development. "Faculty adoption of technology into the curriculum is key in transforming the teaching and learning process" (Teclehaimanot & Lamb, 2005, p. 332). The major barriers faculty face when adopting new technology include:

- Faculty attitudes toward technology.
- Fear factors and complexity issues.
- Lack of time to learn the technology and experiment with new teaching strategies.
- Limited access.
- Inadequate faculty development opportunities.
- Lack of organizational support.

These barriers can be countered with institutional support that provides incentives to faculty and a support infrastructure for rapid resolution of technical problems (Teclehaimanot & Lamb, 2005).

Faculty training and support is a critical component of online or blended learning. Instructors play a different role than a traditional classroom instructor. Faculty development programs can have a positive impact on

instructor transition from face-to-face to online (Kim & Bonk, 2006). Instructor technical competency is an important factor, as are skills in moderation and facilitation.

Faculty also need to understand their students' readiness to engage in self-regulated learning. "In terms of factors that can improve online learners' success, respondents said that training students to self-regulate learning (22%) was needed most, followed by better measures of student readiness (17%)... Nine percent said additional technology training is needed." (Kim & Bonk, 2006, p. 26)

Educational innovation will often work "in the hands of the few" but lose effectiveness when many, diverse individuals working in different circumstances or contexts are involved (Bryk, Gomez, & Grunow, 2011). Practitioners need to take a networked approach that crosses traditional boundaries. This can include establishing instructional CoPs.

What Does Right Look Like?

During our visits, the number one question is what does right look like? In many places around TRADOC, parts of the ALM are being used effectively. No one school or instructor has it all right, but ongoing efforts to seek out excellence and share across schools is well underway. While many course managers and instructors are simply looking for a checklist of things to do, the best instructors are looking for a vision that provides them both the resources as well as the academic freedom to adapt and adjust their daily curriculum to best achieve their learning objects.

The best example we observed of this was in the Command and General Staff College in the electives offerings of the Intermediate Level Education. In these courses, the instructors are learner-centric and applying many new approaches suggested in the ALC 2015. In one classroom we visited, the instructor LTC Scott Mueller not only understood how adults learned, but he was in tune with the day-to-day challenges that come from multiple learning styles and the complicated arrangement of technology, both synchronous and asynchronous. He also understood the advantage of integrating simulations, games, and the use of online learning communities where students could connect to their peers in units and stay linked to the day-to-day challenges.

Towards the end of this paper we provide a vignette in the form of a case study of LTC Mueller's class set in the future. Our intent is to help create the vision of what a 21st century classroom applying the Army Learning Model might look like. But first, the instructor must change the way they approach learning and teaching.

TEN COMMANDMENTS FOR 21ST CENTURY INSTRUCTORS

"Tell me and I'll forget; show me and I may remember; involve me and I'll understand." –Chinese proverb

In this section we present an amalgamation of best practices based on multiple observations and site visits. These tips came from more than 30 interviews with administrators, faculty, training developers, and instructors. Our experience has been mostly Army-centric with short insights into the other services. However, to extrapolate to other services or to industry training and development will not require much of a leap. While our data is not scientific, and many variables equate to a successful learning environment, there were definitely a number of highlights that we call the 10 Commandments.

More than anything else, the art of instructing in the modern day learning environment is about balancing the blend of techniques and tools that engage learners and make them inquisitive. To shift the approach from "instructor with the knowledge" to instructor as facilitator, coach and mentor requires us to apply a different set of principles—ones that involve students more effectively and cross the boundaries of formal and informal learning

By setting high expectations for adult learners, we help them take responsibility for learning, and through initial assessments and individual development planning with each one, we gain a better understanding of what they know, how they learn, and how the curriculum needs to be presented to make sense to them. Instructing today is far more than having content knowledge; it's about ensuring students can go back into the workforce and apply what they know as well as continue to learn. Alvin Toffler, the author and futurist said, "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn" (Toffler, Toffler, & Gibson, 1998).

Here is our playbook for the 21st century instructor.

1. **Understand your organization's teaching philosophy.** Method aside, how the organization looks at learning will drive what you are capable of accomplishing. For the Army, it is an understanding of ALM and how the role of the instructor has changed. Hold the institution accountable for the freedom to execute the philosophy once learned and applied.
2. **Teach them like adults, not children.** The pedagogy used for adult learning is very different from how we were taught as children or even young

adults in college. Understanding learning styles and how to quickly assess knowledge and skills and how to apply the principles of adult education are a prerequisite for understanding how to engage learners so learning lasts beyond the last class bell. Today's instructor must master the principles of adult education and be considering them every day they are in the classroom. Malcolm Knowles (1976) describes his take on Lindeman's key assumptions about adult learners (1926):

- *Adults learn best when they take responsibility for determining what they learn.*
- *Adults learn that which is personally beneficial to them.*
- *Adults learn best when they discover for themselves*
- *Adults learn more from experience and feedback than experience alone.*

Set expectations for these assumptions early with students and make them part of your contract for learning.

- 3. Teach to the top half of the class.** The common practice has been to teach to the lowest common denominator, but all the evidence shows that's not where we get the most gain. By teaching to the top, we raise the learning level; we expect knowledge and comprehension levels already have been reached through prior reading and study; we engage the top performers and challenge them to go further while pulling up most of the lower performers as well. Some students may never achieve even the minimum standards and will not be capable of high performance. As soon as you stop your lesson, however, to go back over the basics because not everyone read the material, you are setting a precedent in favor of the lower performers. One way to teach to the top is to focus on problems the students need addressed rather than the content that should be delivered; build rubrics around various performance levels and around problem solving, and then discuss the differences between novice and expert performers.
- 4. Master the art of the question.** This is more than Socratic participation. It involves deliberately scaffolding questions that take the learner to a higher level each time. It is the ability to answer a question with a question and help the learner understand why they think the way they do, not just what they think. Remember when we were small children and would constantly ask why? Ask students why 5-6 times in response to each answer and see how far you can go. You will gain insight into who comprehends and who is merely repeating the content. Questioning is one of the most effective ways to develop critical thinking skills.
- 5. Make the classroom experiential.** PowerPoint has become the easy way out for far too many classes. Some instructors believe that every thought must be outlined in their slide deck. As a result, students rarely open manuals. "The instructor has summarized the important stuff on his slides" one group told us. Students want hands-on involvement, whether it's digging in the FM to find the answer, or organizing a task force for battle, or decomposing a process for analysis. The time it takes to move a learning outcome up two levels from comprehension to analysis is minimal, but the difference in learning outcomes is large. Watching videos is only slightly more engaging than presentations and dry lectures. Create activities that are constantly questioning assumptions and testing why they know as well as what they have learned. Activities do not have to be grand adventures. Three to five minutes is enough to engage, and when repeated often enough (4-7 times), you are guaranteed to achieve higher learning outcomes and improve critical thinking skills. Neuroscience has revealed that 90% of what the brain processes is visual (Holden & Westfall, 2010, p. 13). Make your classrooms visually stimulating. Get the learner involved in creating some of the content for the course.
- 6. Facilitate debate and discussion.** We learn best when ideas are challenged and we are forced to defend them. Create a safe environment where hard topics can be passionately debated in a professional manner, where reason and logic prevail over emotion. Often ask, "why do you think that" or "why do think that is right." "Are there times when that could be the wrong approach?" Questions like these cause introspection and force students to reflect upon and examine both the evidence and references but also their metastrategies for reasoning and learning. The goal in the learner-centric classroom is teaching them how to think and learn; not what to think.
- 7. Encourage and manage student-generated content.** We have always heard the best way to learn something is to teach it. Having the learners generate content that is then peer reviewed and assessed prepares them for the real world. When many of us want to learn or understand something new, we turn first to a peer or colleague, then to references. When students generate the content, it's often more current and relevant to them than something created in the school house. It also multiplies the number of examples available for everyone to take away at the end of class. In one class of 18, we had groups of students research six topics and provide a one-page review of each topic. The reviews were then critiqued by other students. In the end, all 18 papers were available to each

student who could take them and apply to their future work.

8. **Use CoPs to link students and experts and to link faculty.** Why should we contain a conversation on a professional topic to only the 16-18 people in our classroom/seminar? What if we could engage leaders in the field to see what they are thinking or to understand the issues that are keeping them awake at night? We can by using the Army Professional Forums (or equivalent in other services). An instructor can have a decision in class on Monday—let's say about the a key step in the military decision making process—and that night, through the professional forums relevant to them, ask leaders in the field how they apply that step, who provides input, and what the outputs are. By Thursday's class, each student should have more than enough feedback from those on the ground to have hours of conversation on a relevant and current topic. It is easy to write this approach into the lesson plans; each question should relate directly to accomplishing an enabling objective for that lesson. These virtual communities help faculty link across and between campuses to discuss curriculum, share techniques and content, and build the relationships necessary for a learning organization.
9. **Get on board with the technology.** This includes learning management systems, data repositories, serious games, simulations, tablet run applications, smart boards, video teleconferencing tools, and on and on. It's the 21st century. It's time to put away the view graph slides! It's not that we have to entertain students (we do to some degree); its more about how we develop the right brain connections to form mental models that we rely upon to recall knowledge and experiences. It's why we remember every scene in our favorite movie but very few from our favorite class in college. Institutions must provide the training and help desk support needed for every faculty member to master at least the basics. When that's not enough, peer instructors and colleagues who have mastered it can assist in running certain exercises and activities with you. The time for excuses about why we don't know how to improve learning outcomes with these tools is about to run out. Good instructors use the tools regularly. Incorporate collaborative tools like wikis, blogs, or discussion boards to support active learning and knowledge construction through peer-to-peer interaction.
10. **Facilitate collaboration (both student-to-student and faculty-to-faculty).** Most everything we do will be done as part of a team, a staff, or a unit. Collaboration (the actual act of working together to create something meaningful) is a prerequisite for

success. Students tend to dislike group work because inevitably, someone gets stuck carrying a heavier load. As curriculum designers, the triad of instructor, training developer, and QA/QC must work closely to create opportunities where groups can form quickly to collaborate, yet formative and summative assessments can still be made of individual work. Instructors should also take the opportunity to teach students how to collaborate virtually using a host of information technology mediums. Most of the work we do in units involves some aspect of virtual teaming; the skills for working virtually across time and geographic boundaries are very different from the face-to-face skills we tend to employ in the classroom setting. Students and faculty must be well versed on tools and techniques. Collaboration between faculty members is equally important, and institutions should ensure their faculty and staff have both the right tools and training to practice what they preach.

These 10 commandments provide a place for instructors to begin the journey toward the 21st century learning environment and developing agile and adaptive leaders. Remember, if you could make your classroom more like a batting cage than a theater, students would compete for the opportunity to get into the cage and demonstrate proficiency. All the evidence shows that when learners are engaged, they walk away having learned more.

CASE STUDY

In this section we offer a futuristic "case study" of what the ALM would look like implemented. We hope that providing a vision of "what right looks like" will provide a roadmap and enable others to act.

July 2015, Somewhere in TRADOC

LTC Scott Mueller arrived at the installation two weeks ago and began to settle his family in and rekindle old relationships with his network of friends and instructors at the school. Scott had been handpicked to teach at the Intermediate Level Education course not just because he had two branch qualifying tours in Iraq, but because he had been picked above his peers as an inquisitive officer who was continuously learning and challenging himself. This positioned him well for both command and passing on his wisdom and learning temperament to next-generation leaders.

After in-processing, LTC Mueller went immediately to the Faculty Development Course Phase 1 (FDP 1), which was a requirement for anyone teaching at this college. Mueller did not have a background in education or pedagogy; he was a successful Armor officer who knew how to train soldiers but something

here was different, as they explained on the first day of FDP 1. "We train for certainty, but educate for uncertainty," the faculty development leader mused. The faculty development leader added, "It's our job at this institution to develop our students, the products of this college, with the ability to assess situations; recognize changes in the situation; solve complex, ill-structured problems; and communicate a vision of what needs to be performed. It is no longer possible to teach them everything they need to know for the second half of their career, so we must teach them how to learn rapidly, assess situations quickly, work as part of collaborative multidisciplinary-teams, and solve problems effectively."

The Army Learning Model provides a guiding vision for how the Army will develop soldiers and leaders for a career-long continuum of learning and the role in which the institution plays in that development. "It is the new normal" said the developer. "Gone are days of PowerPoint lectures and large group instruction in small groups. Today's classroom is an extension of the units in the field, and what is happening in our deployed units today are topics we must discuss tomorrow in class and in online forums. Forget everything you know about the way Army schools used to teach, welcome to the new Army Learning Model."

With that introduction, the FDP 1 spends a full week discussing an Adult Learning Model they called the Experiential Learning Model (ELM). It flips the traditional lecture, PE, test method around 180 degrees and engages students to demonstrate understanding, conduct structured and meaningful discussions, learn new knowledge, apply that new knowledge to changing situations to ensure they can adapt it as needed, and evaluate through practical exercises and activities both in groups and as individuals.

In this part of the course, new faculty learn about lesson plan development and how to effectively achieve learning outcomes. They also learn techniques to vary the learning levels so they could challenge both the strong and weaker performers in their classroom. A basic understanding of the blended classroom is covered in the first week, but the tools and applications follow in the second week.

Week 2 is dedicated to execution in the classroom and helping new faculty members master the technology, simulations and virtual/mobile apps used throughout the course, and the CoPs they will use to connect learners to practitioners throughout the year. This part of FDP 1 is very hands-on, and facilitators model the experiential learning model. It also focuses on the learning management systems and knowledge management approaches, and the processes, tools, and locations

where faculty and student consume and contribute to the cloud-based knowledge base.

Weeks 3-4 consist of Phase 2 faculty development, which is content specific. In this phase, instructors and training developers hone their lesson plans and practice with veteran instructors. Teaching teams bond, debate and share philosophies, and identify and share best practices.

In Week 5, as students begin to arrive and in-process, the faculty comes together for two days of celebrating new techniques. Department Directors highlight innovations and best practices, and brief explanations by lead instructors demonstrate why the technique worked for them and how they set conditions. Innovations that did not succeed are also included; lessons learned are discussed and faculty members willing to try something new are recognized and appreciated. The third day they meet students during an expo-like event where students move from classroom to classroom and talk with different instructors, and where students learn their seminar room assignment.

On days 4 and 5 of this week, students report early to their newly-assigned seminar rooms and are immersed in a series of simulated exercises, virtual drills, and knowledge tests to assess their current knowledge and problem solving skills. The evaluation tools are all networked so results are recorded immediately and passed both to the learner and their faculty adviser. These are very comprehensive tests, covering all areas. The goal is to understand what students know and don't know so that individual development plans can be created to improve their development over the year, and so that instructors can predetermine how they will adjust learning outcome expectations for the broad range of students.

Learning styles and work style assessments are included so the learner gains a better perspective. This is a grueling two-day event the students have named the Crucial. By the end of day 2, most students are humbled by what they now realize they need to know, but they have a clear idea of where their strengths and weaknesses lie. With mentoring from their faculty advisors, they can not only focus on those areas but track their progress. The assessments from day 4-5 do not become part of the student record. They are for self-development and only the student and faculty advisor see the results and use the information.

Mueller has a wide variety in his 16-person seminar, including two international officers and three sister service officers. As the first week of regular classes begins, Mueller meets with each of his 16 students between classes and activities to go over the results and develop and Individual Development Plan (IDP).

During the first week of classes, students are surprised when, after brief introductions, Mueller has them all dive directly into a simulated exercise in teams. The goal of this exercise is to solve a tactical problem and achieve a designated objective. The computer records the decisions, actions, and outcomes, and the activity lasts only about 45 minutes. At that time, Mueller facilitates an after-action review of the event and plays back one or two student fights.

Students are forced to evaluate the action, link those actions to doctrine that was a pre-reading for the day's lesson, and to identify decision points and specific conditions needed for each decision. After 30 minutes of discussion on the activity, it is clear to Mueller which of the students read the material. Likewise, it is just as clear to their peers.

Mueller next turns the discussion to the doctrine, but rather than flipping a PowerPoint slide with the definitions of specific doctrinal terms, his slide only lists the term itself "Mission Command." "So what manual am I going to turn to understand Mission Command?" he asks. Students scrounge for their lists of manuals, some have the "deer in headlights" look, and others blurt out manual numbers. It is clear they don't all know where to look.

Instead of going on, Mueller simply says, "I'll give you all a minute to find the right FM," forcing every student to call up the correct FM on their tablets and find the needed definitions. He then proceeds to ask them how the doctrine applies in the situation we just encountered. No PowerPoint slides defining the doctrinal concept, no analysis of how he thought it applied, only the question to the students. By this point, many of the students are starting to realize this is not going to be like most Army courses where they show up and are lectured to and shown hundreds of PowerPoint slides, and if the instructor thought it important, it would be on one of those slides, all neatly analyzed by the instructor and exactly the way they wanted to see it.

Some immediately smile at this hope to be challenged and stretched, forced to grow and learn. Others sink into their seats knowing they are ill prepared.

"Time for Exercise 2," Mueller announces and again has the students work in teams and emerge in another simulated battle very similar to the last...but something has changed. The enemy is changing tactics. After two more exercises, Mueller again emphasizes how their actions in the simulation relate to the doctrine they are learning and set a foundation for why we must know the doctrine inside and out as professionals.

Mueller assigns the students a reading they all have on their tablet and the requirement to conduct two more exercises by the next class. He also directs them to the Blackboard Learning Management System where the course material is organized, and requires them to add an entry to their learning journal. A final requirement is to go onto one of the Army's 60 Professional Forums (communities of practice) and ask practitioners in the field how they are applying Mission Command in their day-to-day settings.

For the next lesson, Mueller has the students conduct research on how the Army does force generation. Students are required to create a 2-4 minute YouTube-like video explaining the concept and summarizing the doctrine. Each student hangs their video on the Blackboard site and reviews and comments on at least three others. This user-generated content helps each student understand not just the material in review, but how to research, organize, communicate, and evaluate—all skills essential for adaptive leaders who continuously learn.

Mueller's classroom is not a place students come to be spoon-fed what some instructor feels is important. It is truly a blended environment where classroom time is spent making sense of what they were assigned to read and discuss in their online forums. It is a place where guided deliberate practice deepens learning and raises the learning levels effortlessly from knowledge and comprehension to application and analysis, and often to the level that has students synthesize concepts and ideas into action or evaluate the actions of others.

Mueller understands how to teach to the top half of his student population without leaving the bottom half too far behind. He knows that the greatest benefit to the Army comes from improving the top students to perform at even higher levels. He knows that by pushing the top performers in his class, they will naturally raise the bar for everyone and as evidence has shown, all seem to improve to higher levels. Mueller uses simulations in his classroom like a baseball coach uses a batting cage. He understands multiple repetitions are required to truly learn anything, and the IDPs he built with each student gives him a good idea of how long each needs in the batting cage. Eventually he creates a competition between the students using the simulations in the classroom and the tablet-based applications for take-home work. He sets up a competition ladder with bragging rights as the reward.

By the end of Mueller's six-week block of instruction, the students have engaged in over 60 exercises, and read and discussed the major parts of two field manuals and six articles on the topic. They will have logged over 1,200 insightful entries into the Blackboard learning community or the Army Professional Forums. They

will have learned how to research a new topic, make sense of it, and write a one-page information paper suitable for their 'net boss,' and they have conducted over 60 hours of structured discussion, analysis, and discourse on the topic.

But Mueller's class is not unique. In many more classrooms the Army Learning Concept for 2015 is well understood and being implemented with amazing results. Students who come to the course looking for a break in the action or the "best year of their career" soon find that the best year is not measured in inactivity but in meeting a different type of challenge. They understand and become driven by the reward in their sense of accomplishment and ability to meet these challenges. Yes, there will always be those who self-select out of the race and settle for mediocrity. Even those who struggle with keeping up will likely feel a greater sense of accomplishment than if they were coddled and talked down to most of the year.

All across TRADOC, parts of this vision are being played out today. The challenge is to propagate this vision and create the infrastructure, both pedagogy and technology, to support the Army Learning Model.

CONCLUSION

While coaching, training, and leading come easy, managing a classroom and delivering on the educational outcomes is much more challenging. Much has been written about the transformation of learning currently underway, but there has been a dearth of comprehensive resources to guide educators and instructors through the process of transformation. Much work is needed to help military instructors transition into the role of educator.

The focus of this paper has been on the U.S. Army and TRADOC, but we are confident that other services as well as industry partners can extrapolate and adapt these ideas to their organization. The authors offer this paper as a roadmap, a tool to help learning organizations develop instructors for the 21st century environment. We want instructors to understand what ALM looks like implemented, and enable them to make immediate changes to the classroom, even while the institutions develop new policies and procedures for implementing new learning models.

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