COMMON FACULTY DEVELOPMENT INSTRUCTOR COURSE

STUDENT BOOK

VERSION 2.1

Homework Website:
http://www.benning.army.mil/CFDP_INST_HW

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Lesson 1

Introduction

Action: Describe the purpose of the course.
Conditions: In a classroom or training site, with appropriate graphical training aids, given various learning activities, student handouts, advance readings, and peer and instructor feedback.
Standards: The description will include:
The course outcome and sequence of lessons
An overview of the Army Learning Concept
An overview of the Army University
A description of Instructor Competencies and General Learning Outcomes: An overview of the lesson learning objectives
Learning Domain - Level: None assigned

What is Army University Supposed to Do and How Is It Going So Far?

MG John Kem, U.S. Army
LTC Andrew T. Hotaling, U.S. Army
Army University Press/Journal of Military Learning
Retrieved from http://www.armyupress.army.mil/Journals/Journal-of-Military-Learning/

The U.S. Army has always placed tremendous emphasis on training and education. It is a foundational part of our culture, dating back to Washington and Von Steuben training that transformed the Continental Army at Valley Forge, the founding of West Point in 1802, the establishment of the School for Cavalry and Infantry at Fort Leavenworth in 1881, and most recently, the establishment of Army University on 5 June 2015. Warfare is and will remain the most difficult of human endeavors, and in the multifaceted world of today, developing soldiers and civilians with the technical, professional, and leadership skills to "win in a complex world" is more important than ever. The Army has never stood still when it comes to improving training and education, but recently Army leadership has recognized that the rate of change in the operating environment necessitates a true transformation in the way we approach learning in the Army to ensure readiness of our forces now and far into the future. We needed a more innovative enterprise-wide approach to create a culture of career-long learning and to dramatically increase the rate of innovation across the Army.

What Will Army University Do?

The launch of Army University defined eight key objectives to address innovation and reinvigorate learning across the Army:

1. Develop a world-class faculty
2. Professionalize curriculum development
3. Grow qualified students
4. Adopt nationally recognized standards
5. Improve professional research and publication
6. Expand public-private partnerships
7. Implement new business and governance practices
8. Create an innovative learning environment[1]

These objectives, while not easy to achieve, are easily recognized by other services and the very best U.S. colleges and universities as key objectives of an institute of higher learning. The Army and other services, however, must also address three key attributes that set them apart from a typical model for higher education: (1) we are the "end user" of our students, (2) we must address a full spectrum of learning for a wide variety of cohorts with varied educational backgrounds (civilian, enlisted, commissioned officer, and warrant officer), and (3) we must provide effective learning throughout a career. Soldiers complete their training and education courses and then fill our operational and institutional units, providing the technical skills, professional expertise, and leadership of Army units whether active duty, Army Reserve, or National Guard. Like our sister military services, with minor exceptions in the medical and legal fields, we do not and cannot hire in at middle management for our uniformed personnel. It is too difficult to develop the experience, leadership, and warfighting skills required at higher echelons, *so our learning has to be effective.*

Our soldiers and civilians are recruited into the Army with a wide variety of educational backgrounds, ranging from those with high school diplomas to those possessing PhDs. The *learning environment must be adaptive* to the needs of the learners, engaging them at their level, and progressing them through challenging and relevant curriculum and instruction to higher levels of learning. Further, our

learning enterprise must be capable of expanding the cognitive abilities, technical skills, and leadership abilities of each of our four cohorts over their entire careers. This would be unachievable without a complete, holistic learning pathway continuum. This *long-term focus on learning* also provides a unique opportunity. Unlike a typical university, by design, our students will transition from school to operational or institutional units and back again into our school system several times over a career. So, if designed properly, we can achieve a sequential and progressive career-long learning pathway.

A second critical challenge is the rapid communication and technology development cycles of today, which clearly impact the means in which we conduct current and future warfare. We have to inculcate very rapid feedback mechanisms into our culture and governance processes to acquire operational lessons learned, and we must identify gaps in knowledge from continual review of best practices from military, government, industry, and academia and infuse this new information into our learning outcomes. In the 1960s through the 1990s, the cycle time for introducing changes into Army training and education was typically three to five years. This is not fast enough for today's rapidly changing environment. Soldiers must be able to not only keep pace with quickly shifting requirements but also to thrive in conditions of change in order to dominate adversaries during unified land operations or any other missions assigned to the U.S. military. This requires constant assessment and reassessment of the necessary knowledge, skills, and attributes of our four cohorts, accompanied by a governance process capable of quickly adapting to needed change.

Other key challenges include scale and scope. The Army University learning ecosystem is comprised of thirty-seven different institutions that are physically located in twenty-three states. Each of these institutions resides within the footprint of one of the six higher education regional accrediting bodies, and together they have an annual throughput of more than one-half million students.[2] This learning ecosystem supports soldiers and Department of the Army civilian professionals in all fifty states plus numerous overseas locations. Many of our learning efforts are focused on what has traditionally been categorized as either training or education. Few have been degree producing, and a large percentage are more similar to continuing education, whether for technical or common managerial skills. Furthermore, we must have a professional military education (PME) system that supports career development and lifelong learning while recognizing that a very high percentage of soldiers only serve for a few years. For example, according to the U.S. Army Human Resources Command, less than 15 percent of active-duty enlisted soldiers serve twenty years; roughly 130,000 soldiers transition from Army service each year. Therefore, our learning ecosystem must also support transitioning soldiers and setting them up for success with certificates, licenses, and educational credentials that will enable them to continue to excel after they transition out of the military.

How Is It Going so Far?

With any new organization, the challenge is always, "What is most important? Where should we begin?" Prioritizing a new staff to work through the myriad of challenges to achieve an organization's goals is difficult. Army University has achieved its initial operating capability and is making good progress towards achieving full operational capacity by late fall 2017. (Initially it was to have been in summer 2017, but a hiring freeze slowed advancement.) That said, we are not waiting. We are aggressively working across the Army, partnering and collaborating with the very best of academia and industry, to improve individual soldier and civilian readiness that directly contributes to improved unit collective readiness through better institutional technical, professional, and functional learning. A discussion of select key focus areas we have been working on this year follows.

Rigor and relevance. Historically, much of Army learning was task-based. We would bring together subject-matter experts to develop task lists and then, based on time and resources available, determine what could and could not be included in either resident or online distance learning. Over the last ten years, we have changed our learning approach, adopting state-of-the-art adult learning sciences for a learner-focused learning environment. This has led to a significant reduction in lecture-type formats and

to much more engaging and active dialogue between the instructor and learner, including additional emphasis on peer-to-peer learning. Improvements in rigor and relevance are also being addressed through the adoption of a competency pyramid that focuses all Army learning within a framework of four Army learning areas and fourteen general learning outcomes for each of the four cohorts across a career of learning.[3] The foundation of this pyramid is anchored by individual competencies, from which collective unit competencies, unified land action, and unified action competencies are constructed. The key attribute of this framework is that, for the first time, all Army learning is focused on developing the most relevant enabling learning objectives, terminal learning objectives, and levels of learning on competencies that directly contribute to individual and unit readiness.

Staff and faculty development, and badging/recognition. If you were to ask anyone in academia, "What's the most effective way to improve student learning?" the most likely answer would be to "start with improving your faculty." As we adopt a much more learner-centric approach, we recognize the need to further invest in our faculty and staff development. This year, Army University's Center for Teaching and Learning Excellence set out to do just that. By taking a holistic look at the most innovative ways the Army approaches learning and comparing that to best practices from the learning sciences, we have established the Army's first ever, single staff and faculty development program. The new program takes the great techniques and procedures from the various programs that existed before and consolidates them for a Total Army solution. The program is in place for all active-duty educators and curriculum developers this year and will be rolled out to all National Guard and Army Reserve school centers next year. In concert with the new program, the Army has expanded its badging and recognition program; soldiers and civilians will soon see an increase in awards and display of instructor badges.

In addition to these classroom improvements, the new program is also working toward accreditation by the American National Standards Institute (ANSI). Once accredited, military instructors will have the opportunity to be awarded ANSI credentials, which are valuable for academic credit and civilian employment opportunities.

Degree efforts. The Army has typically performed extremely well at educating its officers. Because most officers join the service with at least a bachelor's degree or higher, the path toward an advanced degree is generally easier to construct. The U.S. Army Command and General Staff College, the U.S. Army War College, and the Defense Language Institute all are accredited by regional academic accrediting bodies to award college credit and degrees to their students who complete the requisite coursework. Expanding these types of programs to our warrant officer, enlisted, and civilian cohorts is required to meet both the education goals of our military community and the operational needs of the future Army. Army University has identified several avenues to expand degree opportunities.

Continuing education degree programs are established by Army centers of excellence, usually with local colleges and universities, to complement Army learning objectives with related civilian education programs. All centers of excellence are working to establish new continuing education programs by the end of this year. A new initiative for NCOs attending the U.S. Army Sergeants Major Academy (USASMA) will provide students the opportunity to earn a bachelor's degree in "leadership and workforce development," taking advantage of the coursework they completed while a USASMA student and building on the general education credits (e.g., college math and English) they earned earlier in their careers as NCOs.

Credentialing. Army University, working closely with the Army G1, Human Resources Command, and Installation Management Command, is establishing a holistic Army credentialing strategy to ensure our soldiers and civilians are receiving the recognized credentials they deserve for completing Army education and training programs or through demonstrated competency. We expect senior Army leadership approval by June 2017 and aggressive implementation in the coming year.

Credentialing is a tough problem, one that has gotten a lot of attention lately from leaders at all levels, including Sergeant Major of the Army Daniel Dailey and members of Congress. A part of the challenge lies in the wide range of credentials available. There are approximately eleven thousand nationwide, but only a small percentage are high-payoff credentials related to military expertise with some link to military occupational specialties and additional skill identifiers, and few are promoted as "in demand" according to the Department of Labor analysis of those most desired in the coming decade in the public and private sector.

The Army credentialing strategy assists soldiers and leaders with identifying and achieving these "right" credentials that increase soldier and unit readiness, professionalize the force, and create career-ready soldiers capable of transitioning Army skills into civilian employment and education opportunities. Soldiers will be able to more easily decipher which credentials lead to promotion points and which are considered "in-demand" by civilian industry, and they will be able to enroll in a program that will support self-directed credentialing opportunities related to their military training and skills.

Guided self-development. Although this project will not begin in earnest until next year, it is worth highlighting where we are heading. Capitalizing on our efforts to expand credentialing and academic partnerships, Army University will pursue collaborative partnerships with a few of the best American universities in each of the regional accrediting bodies' geographical areas to pursue guided self-development opportunities for soldiers and civilians.

Self-development may come in the form of online learning, weekend or evening seminars, or a blend of the two—typically short in duration and focused at junior- and senior-level collegiate academics. Once completed, students will receive a micro-credential or micro-credit that, when combined, or *stacked*, with other related and sequential micro-credits, will equate to a full and fully transferable credential or academic credit. Initial focus areas will include communication, leadership, project management, counseling/coaching, and training instructor/facilitator—all subjects that will help soldiers be better within and beyond the military.

This is a very exciting opportunity for the Army to be a part of a growing trend in U.S. higher education. Fortune 500 companies, academia, and higher-education industry leaders see exceptional value in this emerging educational concept. Students spend less time away from work and families, and they are better able to select the short-term education or skills-development courses that meet their immediate developmental needs. Additionally, employers get to see documented, recognized competencies from potential new hires.

Competency-based education and the learner profile. Another growing trend across the private sector and academia is competency-based learning. The Army has always been one of the very best organizations in our nation in developing the knowledge, skills, and attributes—the competencies—needed to enable soldiers to serve and excel. Of particular note are the small-unit leadership competencies we build in our junior NCOs and junior officers. However, we did not recognize and capture those competencies in an effective, holistic manner. By not documenting and capturing those competencies effectively and holistically, we lost a huge opportunity for a return on that investment. We executed the training and education, but we did not properly complete the last, very important part: tying those competencies to the recognized lexicon of academia and industry. This missed last step represents a double loss. First, it is a loss for soldiers who do not receive quality recognition for standards they have achieved. Second, it is a loss to taxpayers who often paid for the learning a second time either through soldiers' repeating coursework in later military courses in which they have already demonstrated competency, or through soldiers pursuing documented learning and often paying for it again (typically with taxpayer educational assistance) after they transition out of military service.

Army University has an opportunity to be on the leading edge of competency-based education (CBE) efforts. The scale of our student population, the scope of the training and education enterprise, and the resources committed to Army learning dictate that we continue to commit to ongoing and future

outreach opportunities with leading universities and the public and private sectors. Army University must seek the most innovative solutions to meet organizational and individual learning goals. One such partnership is with the Lumina Foundation, a private organization committed to increasing higher education accessibility for all Americans. CBE represents a major shift in the landscape of higher education and is on the leading edge of the industry. CBE measures student learning or mastery of skills instead of credit or clock hours. If students can demonstrate that they have mastered the necessary knowledge, skills, and attributes, they are credentialed at the level of competency that they achieved. Similar to the micro-credits, CBE can be combined to award undergraduate and advanced degrees.

Considering the impact of scale once again, the burden of keeping track of the approximately one-half million students in Army institutional schools, plus another one-half million in the operating force (learning through self-development and other means), represents a significant challenge. Enter the *learner profile*. Envisioned as a living document, the learner profile will track and document Army learning and skills mastery throughout a soldier's career. Similar to a university transcript, civilian colleges and universities and civilian employers can use the information to inform academic credit transfers and or employment decisions. Additionally, the data contained in the learner profile could serve as a powerful talent management tool for the Army. Still emergent concepts, CBE and the learner profile represent key initiatives that have the potential for significant payoff in Army readiness.

Army University Press. With the establishment of Army University also came Army University Press. Though much of what we do at Army University Press has been around for many years, the new organization seeks to provide a more contemporary approach to introducing cutting-edge thought and discussion on topics important to the Army and national defense. Through its suite of print and online publication platforms—including this publication, *Military Review*, the *NCO Journal*, and Combat Studies Institute's research and books—Army University Press makes timely and relevant information available to leaders in the military, government, academia, and journalism. The newest developments for Army University Press include a completely redesigned web presence, increased outreach to build upon the military community's body of knowledge and promote professional writing, and a significantly improved social media program. Army University Press, in very short order, has established its presence in both the military community and in the academic world, and it is now a member of the Association of American University Presses, joining over 140 other presses committed to scholarly publishing.

Culture change. With the arrival of Army University, we are *changing our learning culture* and bringing a unifying academic-enterprise approach across the learning domain. We have a long way to go, however. Many of the ideas and efforts outlined above will take a number of years to reach their full potential, not unlike the time it takes to develop the agile and adaptive military leaders we need for the challenges of the twenty-first century security environment. To remain the world's dominant land power and be ready to win in this complex world, the Army must expand its investment in our soldiers and civilians. The establishment of Army University demonstrates that the Army is committed to doing just that. All of our learning efforts, both within our training and education programs and in collaboration with academia, must capitalize on the opportunities we have to (1) increase individual and collective unit readiness, (2) continue to professionalize the Army, and (3) inculcate a culture of lifelong learning to produce soldiers and Army civilians who possess expanded options for career-enhancing opportunities within the Army and ultimately upon transition out of the service.

Finally, some in the Army still question that last part, the investment in transition services. Unfortunately, this is a shortsighted viewpoint. The Army is a profession, but it is also a big family. We bring in young women and men and ask them to serve a higher purpose—to be part of a meaningful mission—whether they serve for four years or four decades. They join us and become an integral part of our purpose and commitment as a profession. This commitment does not get canceled when someone decides to leave. We ask them to commit to the Army, however long they serve, and we have a mutual obligation and commitment back to support them as a "soldier for life." As Army leaders, the burden is on us—not in the sense of a true burden, but as an opportunity to set up serving soldiers and Army

civilians for success, to connect them with the next part of their life.

Interestingly, when you query veterans who struggle after transition from any of the services, they often highlight a key cause as a loss of a sense of purpose and pride from no longer serving. The efforts of Army University outlined in this paper will further advance the recognition of soldier accomplishments, and when combined with the "soldier for life" efforts, can lead to significant improvements in opportunities for transitioning soldiers and their families. Soldiers will be able to transition, proud of their service and on a path for a new sense of purpose—with their knowledge, skills, and attributes accurately documented through widely recognized credentials that provide opportunity for a different, but renewed and valuable sense of purpose as part of a highly skilled American workforce.

Maj. Gen. John S. Kem, U.S. Army, is provost of Army University and deputy commanding general of the Combined Arms Center, Fort Leavenworth, Kansas.

Lt. Col. Andrew T. Hotaling, U.S. Army, is the executive officer of Army University and an instructor in the Department of Logistics and Resource Operations, Command and General Staff College, Army University

Notes

1. Execute Order 214-15, "Establishment of the Army University," Headquarters, Department of the Army, 8 June 2015.
2. The six regional accrediting bodies are the Middle States Commission on Higher Education, the New England Association of Schools and Colleges, the Higher Learning Commission, the Northwest Commission on Colleges and Universities, the Southern Association of Colleges and Schools Commission on Colleges, and the Western Association of Schools and Colleges.
3. "Educating Leaders to Win in a Complex World," General Learning Outcomes White Paper (Fort Leavenworth, KS: Army University, 25 March 2016).

General Learning Outcomes

White Paper

Educating Leaders to Win in a Complex World

19 January 2016

FOREWORD

This white paper describes the problem, proposed solution, and the path forward for a new Army Learning Areas (ALA), and General Learning Outcomes (GLO) framework. The framework horizontally and vertically aligns learning activities across personnel cohorts (Officer, Warrant Officer, Non-Commissioned Officers, and the Army Civilian Corps) and the leader development model domains (operational, institutional, and self-development). The Army University, Center for Teaching and Learning Excellence (CTLE) led a Learning Continuum Sub-Committee within the Army Learning Coordination Council, in an effort to connect 21st Century Soldier Competencies from the 2011 TRADOC Pamphlet 525-8-2, *The Army Learning Concept (ALC) for 2015,* and the Army Leadership Requirements Model from ADP 6-22, *Army Leadership.* The intent was to develop an updated outcomes-based ALA/GLO framework for learning area proponents and Centers of Excellences (COEs)/schools to align their learning strategies and course outcomes with new concepts from TRADOC Pamphlet 525-3-1, *The Army Operating Concept: Win in a Complex World*, *The Human Dimension Strategy*, an updated TRADOC Pamphlet 525-8-2, *The Army Learning Concept for Training & Education 2020-2040,* and Doctrine 2015. The Sub-Committee determined updating the existing framework would not achieve the desired end state; therefore, developed and came to consensus on a new ALA/GLO framework.

The Army Operating Concept outlines the challenging, complex nature of future armed conflict supported by The Human Dimension Strategy to prepare leaders for this complexity. The new ALA/GLO framework is a critical step toward training and educating Soldiers and Civilians to thrive in an uncertain and chaotic future.

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Executive Summary:

In December 2015, the Army University, Center for Teaching and Learning Excellence (CTLE) led a Learning Continuum Sub-Committee within the Army Learning Coordination Council, in an effort to connect the 21st Century Soldier Competencies, from the 2011, TRADOC Pamphlet 525-8-2, *The Army Learning Concept (ALC) for 2015*, and the Army Leadership Requirement Model from ADP 6-22, *Army Leadership*, to support implementation of the Army Learning Model (ALM). The intent was to develop an updated outcomes-based ALA/GLO framework for learning area proponents and Centers of Excellences (CoEs)/schools to align learning strategies and course outcomes with new concepts from TRADOC Pamphlet 525-3-1, *The Army Operating Concept: Win in a Complex World, The Human Dimension Strategy,* an updated TRADOC Pamphlet 525-8-2, *The Army Learning Concept for Training & Education 2020-2040,* and Doctrine 2015.

The Learning Continuum Sub-Committee included representatives from Army University CTLE, United States Army Command and General Staff College (USACGSC), Army War College (AWC), Initial Military Training (IMT), Warrant Officer Career College (WOCC), Army Management Staff College (AMSC), United States Army Sergeant Majors Academy (USAMA), Asymmetric Warfare Group (AWG), Mission Command Center of Excellence (MCCoE), Training and Doctrine Command (TRADOC), University of Foreign Military and Cultural Studies (UFMCS) and Institute for Non-Commissioned Officer Professional Development (INCOPD).

This white paper describes the problem, proposed solution, and the path forward, for a new ALA/GLO framework that horizontally and vertically aligns training and education outcomes for personnel cohorts (Officer, Warrant Officer, Non-Commissioned Officer, and the Army Civilian Corps) and leader development domains (operational, institutional, and self-development). The proposed framework serves to synchronize the Operational Army and Generating Force training and education activities in four ALAs with 14 supporting GLOs, to prepare Soldiers and Civilians to prevail in the most complex environments.

The Problem

The existing framework of 21st Century Soldier Competencies and Attributes, Army Learning Areas, and General Learning Outcomes are not achieving the stated objectives of promoting progressive and sequential learning, enabling cross-cohort integration, improving clarity and quality of course outcomes, and focus on learning activities. As of November 2015, there were 820 General Learning Outcomes identified in the four cohort approved lists. Each cohort had modified the 21st Century Soldiers Competencies and Attributes and Army Learning Areas framework, and developed a vertically aligned set of General Learning Outcomes designed to uniquely support their cohort's education. No deliberate process was followed to horizontally align the frameworks and GLOs across cohorts. Although more than 250 GLOs were identical across the cohort lists, the supporting learning products and curriculum outcomes were not standardized. No metrics in any cohort were put into place to measure implementation and effectiveness of the GLOs, and no synchronized process was developed to focus learning activities.

The result was uneven coverage in a variety of learning areas across cohorts and organizational echelons. General Learning Outcomes were either overly-prescriptive in nature or written as task statements, or lacked any action verb leaving trainers and educators to interpret the outcome. The existing framework did not reflect current Army doctrine and concepts (i.e. The Human Dimension Strategy, or The U.S. Army Operating Concept, or Mission Command Philosophy). Additionally, there was no mechanism in place to review and implement new learning and training strategies accounting for the aforementioned adaptations. Lastly, the existing framework was institutional domain centric with no strategy for supporting training and education in the operational domain, and only in the NCO cohort had a strategy for the self-development domain. In the final analysis the GLO current state did not provide an overarching conceptual framework to help COE and schools link their Program of Instruction (POI) course concepts to what the Army has determined it wants its professionals to Be, Know and Do.

The Proposed Solution

A simplified framework was developed consisting of four Army Learning Areas (*Army Leadership and the Profession, Human Dimension, Mission Command, and Professional Competence).* The Army Learning Areas serve as the foundation to categorize the General Learning Outcomes. COE/Proponent cohorts will in turn look to the General Learning Outcomes to link their training and education strategy's outcomes within the self-development, institutional, and operational domains. These formulated learning strategies lead to the production of training/lesson material that are formally established/resourced through Programs of Record. The new construct set aside a very

prescriptive list of training and educational tasks and outcomes in favor of a descriptive model that provides flexibility to the proponents, training and curriculum developers charged with developing learning strategies. Figure 1 provides a graphical depiction of the simplified framework developed by the Learning Continuum Sub-Committee. It showcases the four Army Learning Areas supported by the 14 General Learning Outcomes. It is then followed by the proponent cohort development of training and education strategies across the leader development domains. This in turn is tied to the Program of Record—Training Development Capability, which is the repository for training and lesson material.

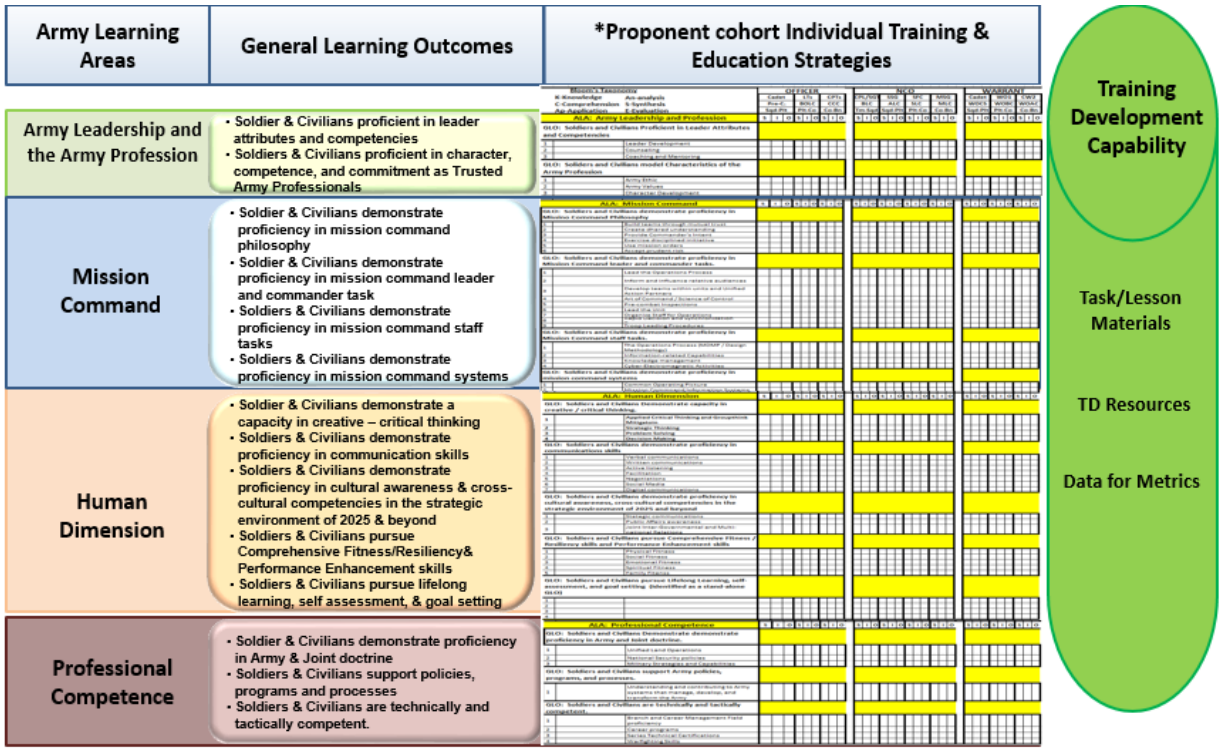

Figure 1: The Army Learning Areas and General Learning Outcome Framework.

This proposed solution enhances the ability of COEs/schools to implement the Army Learning Model. The new framework will continue to emphasize a learner centric

continuum that begins when an individual becomes a member of the profession and does not end until departure from service. Additionally, the solution does not do away with existing meta-competencies and attributes adopted among COE/proponents as assessment metrics or learning objectives. The new model simply places all Army cohorts within a consistent framework and lexicon that embraces a generalizable taxonomy and learning outcomes-based framework.

The Army Learning Areas

The Army Learning Area taxonomy provides a framework to assist in grouping the General Learning Outcomes. The classification construct displays the relationships along the learning outcome hierarchy shown in Figure 2. The four Army Learning Areas of *Army Leadership and the Profession, Human Dimension, Mission Command, and Professional Competence* serve as the framework to catalogue the 14 General Learning Outcomes. Similar to the elements of operational art, the Army Learning Areas provide the focal point for trainers and educators to draw connections to expected Army Professional Learning requirements when developing learning strategies.[1] The Army Learning Areas validated by the Learning Continuum Sub-Committee anchored long standing principles and emerging concepts. The learning areas foster the tenets of leader development and the vocation of the profession, emphasize human dimension, stress empowering subordinates through well-structured intent in Mission Command, and incorporate employment of crucial skill sets to be successful in Unified Land Operations through professional competence. These broad categories form the

[1] ADRP 3-0, Unified Land Operations, (Washington, DC: Government Printing Office) 16 May 2012.

foundation that provides directional orientation in the development of General Learning Outcomes.

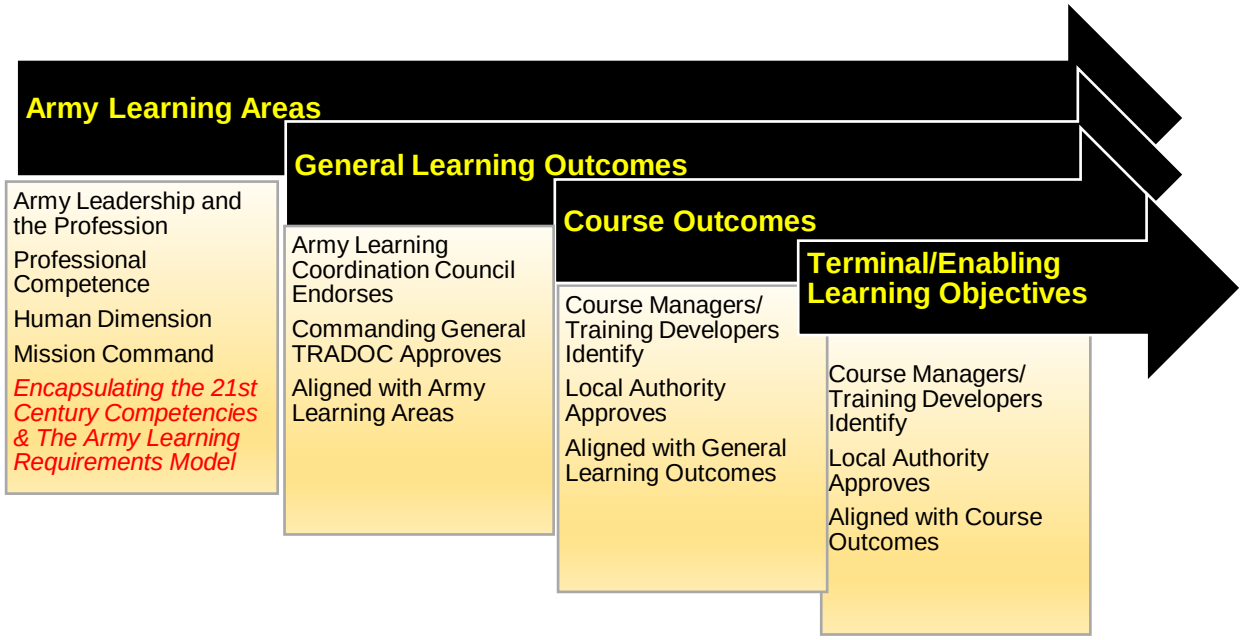

Figure 2: The Learning Outcome Hierarchy.

The General Learning Outcome

General Learning Outcomes are essential outcomes resulting from training, education, and experience along a career continuum of learning. They are derived from the Army Learning Areas with specific learning outcomes, which are translatable universally across the leader development domains (operational, institutional, and self-development). There are three primary purposes for the Army General Learning Outcomes. First, they provide trainers and educators a lens into how effective they are in conveying their support material. Second, it assists in improving instructional design and/or training support packages. Finally it places responsibility on training and education proponents to be nested with ALAs.

Whether it is within the ranks of close order drill at Basic Combat Training, in the field executing Situational Training Exercises, or within the halls of Professional Military Education, or the multitude of opportunities in the Civilian Education System---learning is the intended product. Clearly stated learning outcomes assist leaders and external stakeholders in determining and executing sound assessments on individual, team, and organizational proficiency. With published goals in mind, such as learning outcomes, intelligent judgments are formulated to improve leader development strategies and increases task efficiency[2].

Those chartered with the responsibility of improving their instructional design or training support material discover less resistant glide paths with clearly identified desired end-state/outcomes. Leaders can improve coaching and mentorship with learning objectives by clearly communicating expectations and leader development tools for growth in the individual and the organization.[3] From a learner perspective, learning outcomes serve as a self-assessment tool by providing a set of milestones to achieve.

As previously mentioned, the Army Learning Areas are the baseline focal points Soldiers and Civilians must possess to prevail in the ambiguous operational environments the Army is challenged with today. General Learning Outcomes hold leaders accountable to the learning areas by providing trainers and educators general topic areas to cover and the general results the learner must obtain. The cornerstone of

[2] Marisa Brown, Dr. Morris Keeton & Justin McMorrow, " Assessing Learning Outcomes" The American Productivity & Quality Center (APQC) Institute for Education Best Practices (1998)
[3] Ibid, Brown, Keeton, & McMorrow

the learner obtaining the desired conditions is to demonstrate a proficiency in the listed horizontal and vertical aligned General Learning Outcomes in Figure 3.

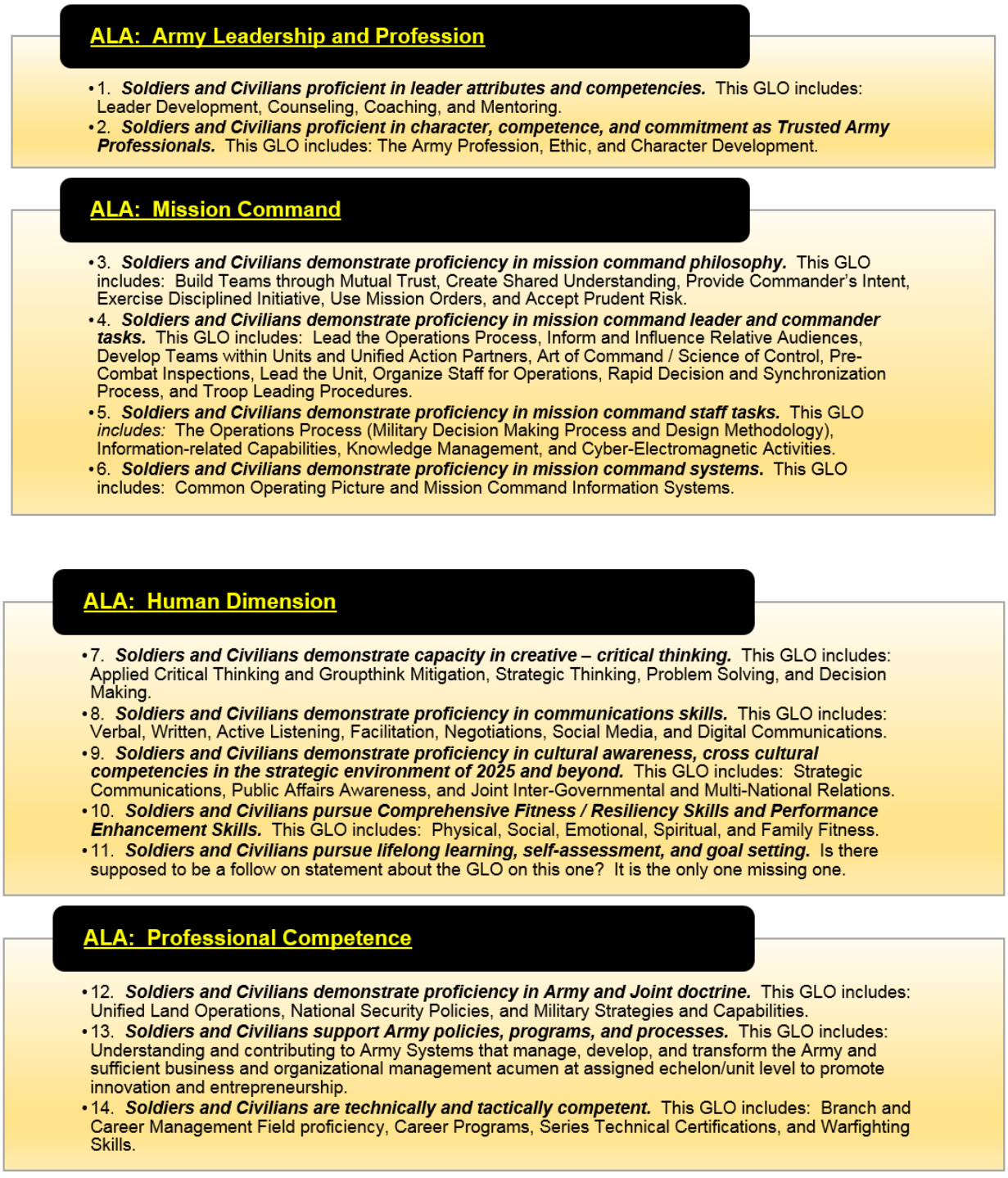

Figure 3: General Learning Outcomes.

The 14 General Learning Outcomes are constructed in audience, action, and outcome format to conform to the professional standards accepted by Academic Accrediting bodies. This will set the conditions for Professional Military Education curricula to be written in a manner that allows for easy translation to civilian academic transcripts. It is important to note that the term **proficiency used with the GLO is intentionally generic, the specific level of competence/expertise by grade/echelon is determined by the cohort, technical and/or operational proponents.** The GLOs also include topic areas that orient the users of the outcomes in the development of learning strategies. The Learning Continuum Sub-Committee concluded the topic areas are flexible and can be modified to suit the future needs of the Army. Like lines of effort and lines of operation, General Learning Outcomes connect training/education objectives to the focal point---the Army Learning Areas.

The Proponent Strategies

Like a crosswalk of individual and collective task to a unit's Mission Essential Task List (METL), proponents execute a similar process of analyzing training and educational outcomes/strategies within the operational, self-development, or institutional domains ensuring alignment with the General Learning Outcomes. A crosswalk occurs connecting the task/topic through the framework across cohort, rank, and echelon. A level of proficiency is then determined by analyzing the operational, self-development and institutional domains within each cohort. Several different methods can be used in determining proficiency levels such as a training assessment approach like "T" (trained), "P" (needs practice) or "U" (untrained) or an assignment of learning levels can be taken

using concepts like Bloom's Taxonomy[4]. The below model (Figure 4) displays a shell of the process utilizing one of the developed Army Learning Areas and General Learning Outcomes with topic areas.

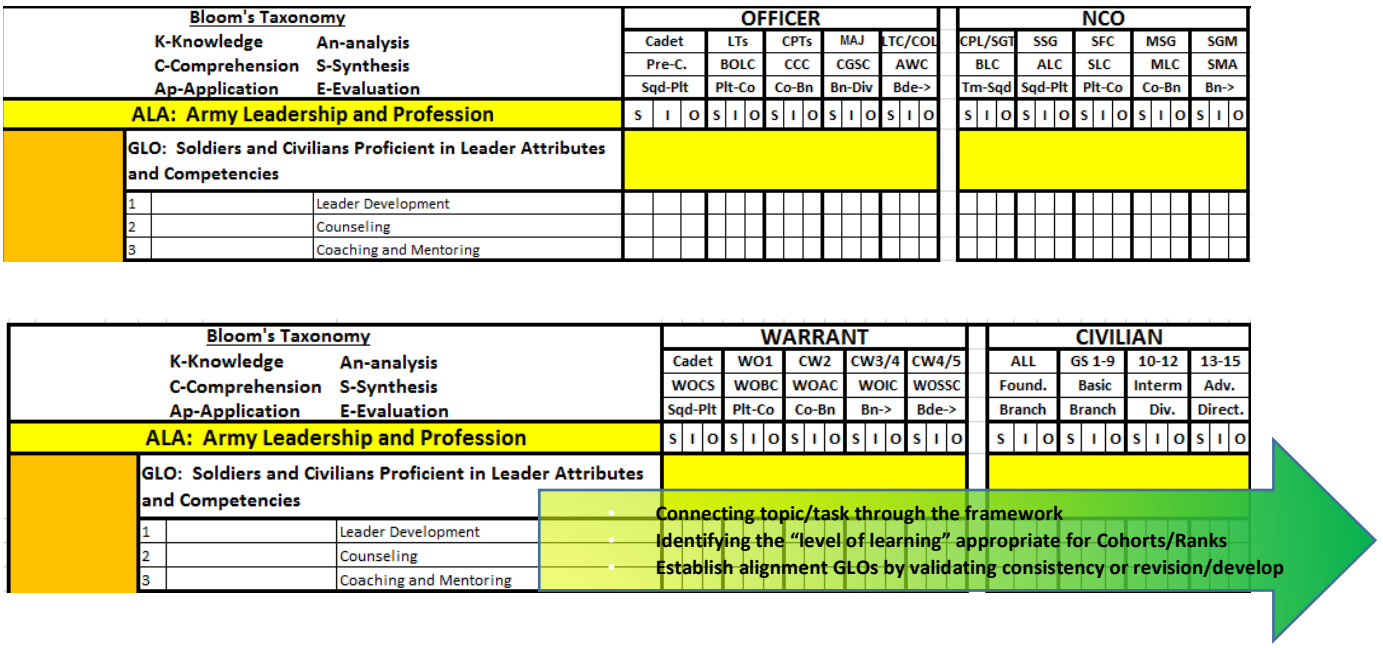

Figure 4: Proponent GLO crosswalk model.

Results will either yield consistency to the proposed Army Learning Area and General Learning Outcome framework or adjustments will need to occur with training or educational strategies. Feedback from the proponents is the crucial component in this process. Due to continuous evolving requirements, the Army Learning Areas and the General Learning Outcomes will not be published in the pending *TRADOC Pamphlet 525-8-2, The Army Learning Concept for Training and Education 2020-2040.* This gives the Learning Continuum Sub-Committee and the proponents the ability to adapt to the changing environment and exercise institutional agility. Given that this is a continual

[4] TRADOC Pamphlet 350-70-1, Training Development in Support of the Operational Domain, (Washington, DC: Government Printing Office) 24 February 2012

effort, Army University will convene on an annual basis the Learning Continuum Sub-Committee to review the Army Learning Areas/General Learning Outcomes framework.

The Program of Record:

Training and educational strategies that are horizontally and vertically aligned with the Army Learning Area/General Learning Outcomes framework will evolve into task/lesson material. Training and curriculum developers will develop learning objectives and standards based on the proponent's analysis while employing the framework. The training material and courseware developed will be formally entered into a program of record repository; i.e. Training Development Capability (TDC), or whichever program the Army adopts in the future. Exercising this process will ensure a quality assurance lens is established and the courses/training plans are properly resourced to obtain the intended learning outcomes.

Conclusion:

Learning areas and outcomes illustrate what the Nation expects from its most precious resource, its people, to prevail in the most complex of environments. The horizontal and vertical aligned framework is intended to focus learning activities in the leader development domains. The framework provides a basic adaptive concept that will register internally and externally to outside stakeholders. The Army Learning Areas are broad enough to utilize now and as the Army Training and Education 2020-2040 strategy is being developed.

The horizontal and vertical alignment of the Army Learning Areas and General Learning Outcomes challenges the training and education enterprise to synchronize its

efforts and work together to promote progressive and sequential learning. Regardless of cohort, a strong notion can be drawn is that many of the proponents have existing learning strategies already in place that align with the aforementioned framework. It is now simply a matter of bringing the initiative together to ensure a common operational language and understanding in programs and processes to ensure we foster the most important aspect---learning.

Maneuver Center of Excellence
Common Faculty Development – Instructor Course (CFD-IC) Formative / Summative Rubric

Name:	**Lesson:**
Evaluator:	**Date:**

This rubric is divided into two sections and can be used in whole or in part, depending on the nature of the assessment.

Students must score 53 points or higher (70%) with no zero ratings on the *Practicum 3 Final Evaluation for Instructor Qualification, Sections 1 and 2*
Some bullets within each descriptor might not apply (e.g., "Ensured students could see and understand any demonstration" when Demonstration was not the selected MOI) and should not be counted against the student.

Section 1: Instructor Competency Areas of Emphasis		**Section 2: Experiential Learning Model (ELM)**	
1. Professional Foundations	0	6. Concrete Experience (CE)	0
2. Planning and Preparation	0	7. Publish & Process (P&P)	0
3. Instructional Methods and Strategies	0	8. Generalize New Information (GNI)	0
4. Assessment and Evaluation	0	9. Development (Dev)	0
5. Management	0	10. Apply	0
Total Section 1 (15 possible points)	0	**Total Section 2 (60 possible points)**	0
		Total Score (75 possible points)	0

Maneuver Center of Excellence
Common Faculty Development – Instructor Course (CFD-IC) Formative / Summative Rubric

Rating	Exemplary 3	Accomplished 2	Developing 1	Unacceptable 0	Comments
Section 1: Instructor Competency Areas of Emphasis					
1. Professional Foundations o Effective Communication (A1) o Update & improve one's professional knowledge & skills (A2) o Ethical and Legal Standards (A3) o Professional Credibility (A4) 0 Weight 1 Total	o Used a variety of appropriate written and oral communication, and body language to convey content. (A1.a) o Demonstrated active listening skills to include encouraging, restating, paraphrasing, summarizing.(A1.d) o Acknowledged diverse perspectives and used language that was appropriate for learning content and audience. (A1.a,A1.c) o Demonstrated exceptional subject matter expertise. Accepted feedback and was open to change and improvement. (A4.c, A4.d) o Avoided real or perceived conflicts of interest.(A3.e) o Model exemplary professional conduct (A4.a)	o Used clear voice; varied speech mechanics for appropriate effect. Avoided excessive distracting mannerisms. (A1.a) o Pronunciation was clear and used appropriate vocabulary. (A1.b) o Communication was appropriate for methods of instruction. Listened actively, incorporating student responses into instruction. (A1) o Demonstrated subject matter expertise. (A4.c). o Respected student confidentiality, anonymity and rights. (A3.c, A3.d) o Expand one's knowledge of learning principles and instructional strategies. (A2.a)	o Used a clear voice and pronunciation was accurate. Some speech mechanics obstructed student learning. (A1.b) o Occasionally seemed uncomfortable with discussions to gain students' perspectives. (A1.c) o Instructional content lacked structure to allow student understanding. Responded to students with limited clarity. (A1, A4) o Demonstrated limited subject matter expertise.(A4.c) o Delayed answering some questions to a later time or partially answered them. (A4) o Treated students equally and fairly and was respectful of students' rights. (A3.c)	o Did not meet any of the criteria for a "1" rating.	
2. Planning and Preparation o Plan instructional methods and materials (B5) o Prepare for Instruction (B6) 0 Weight 1 Total	o Considered all factors impacting instructions to maximize students' learning level; Prepared with a complete Advanced Organizer. (B5.a/b/d/e/f) o Content was organized for effective presentation and appropriate for student level. (B5.a, B6.c) o Was an SME on lesson content and its delivery (B5.a/b B6.a) o Anticipated areas of student difficulty and was prepared additional strategies to aid learning. (B5.b)	o Considered the following factors impacting instructions: 1) Student, 2) Objective, 3) Physical Environment, 4) You and Instructional Team, 5) Time, and 6) Materials. (B5.a/b/d/e/f) o Was prepared for lesson with a complete Advanced Organizer.(B6) o Content was organized for effective presentation. (B5.c) o Classroom/learning environment was organized, set up, and ready for training.(B6.e) o Used technology to student advantage. (B5.e/f)	o Did not consider all necessary factors impacting instructions. (B5.a/b/d/e/f) o Was ill-prepared for lesson with an incomplete Advanced Organizer (B6). o Occasionally seemed unfamiliar with parts of the lesson and supporting materials. (B6) o Used lesson plan extensively and displayed some hesitation referring to materials or using equipment. (B6.c/f) o Technology use showed limited preparation. When presented with an obstacle, instructions not fluid.(B6.e/f)	o Did not meet any of the criteria for a "1" rating.	

Maneuver Center of Excellence
Common Faculty Development – Instructor Course (CFD-IC) Formative / Summative Rubric

Rating	Exemplary 3	Accomplished 2	Developing 1	Unacceptable 0	Comments
3. Instructional Methods and Strategies o Motivator / Motivation *(CE)* (C7) o Lead in *(Bridged the P/P to GNI)* (C7) o Questioning Skills (C10) o Clarification & Feedback (C11) o Presentation / Facilitation Skills (C9) o Methods of Instruction (C12, C13, C14) o Summary (C9.e) 0 Weight 1 Total	o Led students to discover the benefits of learning and risks of not learning the material. Sustained motivation throughout. (C7) o Used questions to tie lesson to students' prior knowledge. (C12.a, C10.) o Consistently used questions to verify students were engaged and understood the material. Asked appropriate follow-up questions.(C10) o Responded to questions appropriately, recognizing signs that some students weren't engaged. (C11) o Adapted presentation / facilitation to learners needs, encouraging collaboration between students. (C8.e, C9.d) o Provided relevant context for demonstrations. Involved students in demonstrations.((C7.g) o Guided students through the practice, as necessary.(C11, C13) Summary focused on Review, Questions, and Transition through student interaction.(C9.d, C12.c/d/e)	o Informed students of the benefits of learning and risks of not learning the material. Exhibited enthusiasm for learning content. (C7.e) o Tied lesson to students' prior knowledge. (C12.a) o Used questioning techniques appropriate to the MOI. Provided opportunities for most students to participate in discussion. (C10, C7.g, C8.d) o Responded to questions in a clear way. (C10, C11.b) o Presented content in a variety of ways, keeping students focused on learning goals and providing opportunity for interaction. (C8.b, C9.d) o Ensured students could see and understand any demonstrations. (C14.h, E19.a) o Provided students an opportunity to practice what they learned, providing direct feedback.(C11, C12.d, C13.c)) o Summary focused on Review, Questions, and Transition. (C12)	o Informed students of minimal benefits of learning and risks of not learning the material. (C7) o Provided agenda but did not tie lesson into students' prior knowledge. (B6.b) o Rarely used questioning techniques appropriate to the MOI. Provided few opportunities for students to participate in discussion. (C10) o Usually responded to questions in a clear way. (C11) o Attempted to facilitate students' understanding with marginal success. Did not provide opportunities for interaction. (C9) o No concern evident that students could see or understand any demonstrations. (E19) o Provided students minimal/no opportunity to practice what they learned. (C12, C13) o Summary rushed or haphazard. (C12)	o Did not meet any of the criteria for a "1" rating.	

Maneuver Center of Excellence
Common Faculty Development – Instructor Course (CFD-IC) Formative / Summative Rubric

Rating	Exemplary 3	Accomplished 2	Developing 1	Unacceptable 0	Comments
4. Assessment and Evaluation o Evaluation Strategy (D17) o Assess Learning and Performance (D16) 0 Weight 1 Total	o Constantly observed students' progress and measured class progress towards the objective. (C9.b-f, D16, D17) o Facilitated learning through constructive feedback and provided opportunities for remediation. Elicited students' reflections / discoveries. (C11, D16, D17)	o Clearly stated objectives of the learning activity in words the students could understand. (A1.a, C9.b) o Provided clear explanation of assessment instruments to students. (C9.b, D16.a) o Observed students' progress and occasionally measured class progress towards the objective. (D16. b/c/d) o Facilitated learning through constructive feedback but rarely provided opportunities for remediation. (C9, C11)	o Implied objectives of the learning activity. (A1.a, C9) o Provided minimal instructions on the use of course/lesson assessment(s)/instrument(s). (C9.b, D16.a) o Occasionally attempted to initiate discussions with students' to assess their progress. (C9, D16)	o Did not meet any of the criteria for a "1" rating.	
5. Management o Classroom Management (E19) o Use of Training Materials and Technology (C14, E20) 0 Weight 1 Total	o Addressed undesirable behavior effectively and appropriately on an individual level. (E19. a-f) o Managed individual and group-paced participation while avoiding digressions. (C9.c-f) o Instruction was clearly enhanced through imaginative and/or innovative use of training materials and/or technology. (C14, E20) o Used visual aids that supported the objectives.	o Established ground rules and expectations with students. o Addressed undesirable behavior effectively and appropriately. o Provided a safe learning environment that set the conditions for successful and positive learning experience. o Instruction was generally effective and not degraded by improper use of training materials and/or technology. o Materials were appropriate in number and supported the objective.	o Conducted introductions. Established ground rules but did not allow for student discussion of their expectations. o Hesitated in addressing undesirable behavior. o Use of technology and/or training materials sometimes enhanced the instruction.	o Did not meet any of the criteria for a "1" rating.	

Maneuver Center of Excellence
Common Faculty Development – Instructor Course (CFD-IC) Formative / Summative Rubric

Rating	Exemplary 3	Accomplished 2	Developing 1	Unacceptable 0	Comments
Section 2: Experiential Learning Model (ELM)					
6. Concrete Experience (CE) 0 Weight 4 Total	o CE activity clearly engaged students' affective domain, making them eager to learn the content. o Activity was clearly linked to the learning objective. Seamless transition to P&P.	o CE activity engaged students' affective domain, laying an appropriate foundation for learning. o Activity was linked to the learning objective. Smooth transition to P&P.	o CE activity was marginally engaging. Students' interest for learning the material was minimal. o Activity was marginally linked to the learning objective. Rough transition to P&P.	o CE did not happen, was not at all engaging, or was not linked to the learning objective. o No emotional response or desire to learn evident from students.	
7. Publish & Process (P&P) 0 Weight 3 Total	o Asked Critical Reasoning / Critical Thinking questions to elicit students' response to the CE activity. o Provided opportunity for and encouraged all students to share their perspectives. o Focused entirely on CE activity. o Seamless transition to GNI.	o Asked open-ended questions to elicit students' response to the CE activity. o Provided opportunity for all students to share their perspectives. o Focused mainly on CE activity. o Smooth transition to GNI.	o Asked some questions in attempt to elicit students' response to the CE activity. o Provided minimal opportunity for students to share their perspectives. o Some focus was on CE activity. o Rough transition to GNI.	o P&P did not happen or no effort was made to elicit students' response to the CE activity. No focus placed on CE activity.	
8. Generalize New Information (GNI) 0 Weight 5 Total	o Selected Method of Instruction clearly contributed to the accomplishment of the learning objective. o Students remained completely engaged and motivated throughout, resulting in maximum transfer of knowledge. o Seamless, deliberate transition to Dev.	o Selected Method of Instruction contributed to the accomplishment of the learning objective. o Students remained engaged and motivated throughout, resulting in appropriate transfer of knowledge. o Deliberate transition to Dev.	o Selected Method of Instruction provided marginal contribution to the accomplishment of the learning objective. o Minimal student engagement and motivation were present, resulting in lackluster transfer of knowledge. o Abrupt transition to Dev.	o GNI did not happen, selected MOI distracted from the learning objective, or student engagement and motivation were not at all present.	

Maneuver Center of Excellence
Common Faculty Development – Instructor Course (CFD-IC) Formative / Summative Rubric

Rating	Exemplary 3	Accomplished 2	Developing 1	Unacceptable 0	Comments
9. Development (Dev) 0 Weight 3 Total	o Discussion or activity clearly promoted transfer of knowledge and skills by providing ample opportunities for reflection. o The potential for future application of material was thoroughly covered. o Seamless transition to Apply.	o Discussion or activity promoted transfer of knowledge and skills by providing opportunities for reflection. o The potential for future application of material was adequately covered. o Smooth transition to Apply.	o Discussion or activity attempted to promote transfer of knowledge and skills. o Minimal opportunities for reflection were provided. o The potential for future application of material was minimally covered. o Rough transition to Apply.	o Dev did not happen, no effort was made to promote transfer of knowledge and skills, or no opportunity for reflection was present.	
10. Apply 0 Weight 5 Total	o Discussion or assessment activity resulted in all students demonstrating their achievement of the learning objective. o Time was allowed for formative or summative feedback.	o Discussion or assessment activity resulted in most students demonstrating their achievement of the learning objective. o Some feedback was present.	o Discussion or assessment activity resulted in some students demonstrating their achievement of the learning objective. o Feedback was not present.	o Apply did not happen or it did not result in students demonstrating their achievement of the learning objective.	

Comments	

Instructor Competencies

Klein, J., Spector, J., Grabowski, B., & de la Teja, I. (2004). *Instructor competencies. Standards for face-to-face, online, and blended settings*. Information Age Publishing: Greenwich, CT.

Professional Foundations

1. *Communicate Effectively*.
   (a) Use language appropriate to the audience, context, and culture.
   (b) Use appropriate verbal and nonverbal language.
   (c) Seek and acknowledge diverse perspectives.
   (d) Use active listening skills according to context.
   (e) Use appropriate technology to communicate.
2. *Update & improve one's professional knowledge & skills*.
   (a) Expand one's knowledge of learning principles and instructional strategies.
   (b) Continuously update technology skills and knowledge.
   (c) Establish and maintain professional contacts.
   (d) Participate in professional development activities.
   (e) Document one's work as a foundation for future efforts.
3. *Comply with established ethical & legal standards*.
   (a) Recognize the ethical and legal implications of instructional practices.
   (b) Comply with organizational and professional codes of ethics.
   (c) Ensure that learners are treated fairly.
   (d) Respect requirements for confidentiality and anonymity.
   (e) Avoid conflicts of interest.
   (f) Respect intellectual property including copyright.
4. *Establish & maintain professional credibility.*
   (a) Model exemplary professional conduct.
   (b) Respect the values and opinions of others.
   (c) Demonstrate subject-matter expertise.
   (d) Be open to change and improvement.
   (e) Relate instruction to organizational contexts and goals.

Planning and Preparation

5. *Plan instructional methods & materials*.
   (a) Determine relevant characteristics of learners, other participants, and instructional settings.
   (b) Plan or modify instruction to accommodate learners, instructional settings, and presentation formats.
   (c) Identify and sequence goals and objectives.

(d) Select appropriate instructional methods, strategies, and presentation techniques.

(e) Plan or modify lessons, instructor notes, assessment tools, and supporting materials.

(f) Create or modify technology-based resources as required.

6. *Prepare instruction*.

(a) Anticipate and prepare for learner difficulties and questions.

(b) Prepare learners for instruction.

(c) Identify key points, relevant examples, anecdotes, and additional materials.

(d) Confirm logistical and physical arrangements that support instruction.

(e) Make instructional resources accessible to all learners.

(f) Confirm readiness of equipment, technology, and tools.

Instructional Methods and Strategies

7. *Stimulate & sustain learner motivation & engagement*.

(a) Gain and maintain learner attention.

(b) Ensure that goals and objectives are clear.

(c) Foster a favorable attitude toward learning.

(d) Establish relevance to increase learner motivation.

(e) Help learners set realistic expectations.

(f) Provide opportunities for learners to participate and succeed.

8. *Demonstrate effective presentation skills*.

(a) Adapt presentations to the learning context.

(b) Represent key ideas in a variety of ways.

(c) Provide examples to clarify meaning.

(d) Involve learners in presentations.

(e) Adapt presentations to learner needs.

9. *Demonstrate effective facilitation skills*.

(a) Draw upon the knowledge and experience of all participants.

(b) Give directions that are clearly understood by all learners.

(c) Keep learning activities focused.

(d) Encourage and support collaboration.

(e) Bring learning activities to closure.

(f) Monitor, assess, and adapt to the dynamics of the situation.

10. *Demonstrate effective questioning skills.*

(a) Ask clear and relevant questions.

(b) Follow up on questions from learners.

(c) Use a variety of question types and levels.

(d) Direct and redirect questions that promote learning.

(e) Use questions to generate and guide discussions.

(f) Build on responses to previous questions in subsequent learning activities.

11. *Provide clarification and feedback.*

(a) Provide opportunities for learners to request clarification.

(b) Use a variety of clarification and feedback strategies.

(c) Provide clear, timely, relevant, and specific feedback.

(d) Be open and fair when giving and receiving feedback.

(e) Provide opportunities for learners to give feedback.

(f) Help learners in giving and receiving feedback.

12. *Promote retention of knowledge and skills*.

(a) Link learning activities to prior knowledge.

(b) Encourage learners to elaborate concepts and ideas.

(c) Provide opportunities to synthesize and integrate new knowledge.

(d) Provide opportunities to practice newly acquired skills.

(e) Provide opportunities for reflection and review.

13. *Promote transfer of knowledge and skills.*

(a) Use examples and activities relevant to application settings.

(b) Demonstrate the application of knowledge and skills in realistic settings.

(c) Provide opportunities to practice in realistic settings.

(d) Provide opportunities to plan for future application.

(e) Explore with learners the conditions that may help or hinder transfer.

(f) Provide opportunities for autonomous learning.

14. *Use media and technology to enhance learning and performance*.

(a) Recognize the capabilities and limitations of media and technology.

(b) Apply best practices when using media and technology.

(c) Represent content in a variety of ways.

(d) Prepare learners for the use of media and technology.

(e) Troubleshoot or fix minor technical problems.

15. *Facilitate life-long learning**.

Assessment and Evaluation

16. *Assess learning and performance.*

(a) Communicate assessment criteria.

(b) Monitor individual and group performance.

(c) Assess learner attitudes and reactions.

(d) Assess learning outcomes.

(e) Provide learners with opportunities for self-assessment.

17. *Evaluate instructional effectiveness*.

(a) Evaluate instructional materials.

(b) Evaluate instructional methods and learning activities.

(c) Evaluate instructor performance.

(d) Evaluate the impact of the instructional setting and equipment.

(e) Document and report evaluation data.

18. *Counsel students**.

Management

19. *Manage an environment that fosters learning and performance*.

(a) Anticipate and address situations that may impact learning and performance.

(b) Ensure that learners can access resources.

(c) Establish ground rules and expectations with learners.

(d) Employ time management principles during instruction.

(e) Discourage undesirable behaviors in a timely and appropriate manner.

(f) Resolve conflicts and problems quickly and fairly.

20. *Manage the instructional process through the appropriate use of technology*.

(a) Use technology to support administrative functions.

(b) Use technology to seek and share information.

(c) Use technology to store and reuse instructional resources.

(d) Use technology to maintain the security and privacy of learner information.

**added by Workgroup 1A.*

Lesson 2

Fundamentals of Teaching-Learning

Action: Demonstrate the fundamentals of adult teaching and learning.
Conditions: In a classroom or training site, with appropriate graphical training aids (chart pack, projectors, Smart boards, etc.), given various learning activities, student handouts, peer and instructor feedback, and examples of lesson plans.
Standards: The demonstration will include the following:
A team building problem-solving activity
Learning and teaching self assessment
Competency-based instruction rationale
Learning Domain - Level: None assigned
No JPME Learning
Areas Supported: None

The Five-Stage Model of Adult Skill Acquisition

Stuart E. Dreyfus

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DOI: 10.1177/0270467604264992

The Five-Stage Model of Adult Skill Acquisition

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The following is a summary of the author's five-stage model of adult skill acquisition, developed in collaboration with Hubert L. Dreyfus. An earlier version of this article appeared in chapter 1 of Mind Over Machine: The Power of Human Intuition and Expertise in the Era of the Computer *(1986, Free Press, New York).*

Keywords: *skill acquisition; learning; intuitive expertise; five-stage model*

Stage 1: Novice

Normally, the instruction process begins with the instructor decomposing the task environment into context-free features that the beginner can recognize without the desired skill. The beginner is then given rules for determining actions on the basis of these features, just like a computer following a program.

The student automobile driver learns to recognize such domain-independent features as speed (indicated by the speedometer) and is given rules such as shift to 2nd gear when the speedometer needle points to 10. The novice chess player learns a numerical value for each type of piece, regardless of its position, and learns the following rule: Always exchange if the total value of pieces captured exceeds the value of pieces lost. The player also learns to seek center control when no advantageous exchanges can be found and is given a rule defining center squares and one for calculating extent of control.

But merely following rules will produce poor performance in the real world. A car stalls if one shifts too soon on a hill or when the car is heavily loaded; a chess player who always exchanges to gain points is sure to be the victim of a sacrifice by the opponent who gives up valuable pieces to gain a tactical advantage. The student needs not only the facts but also an understanding of the context in which that information makes sense.

Stage 2: Advanced Beginner

As the novice gains experience actually coping with real situations and begins to develop an understanding of the relevant context, he or she begins to note, or an instructor points out, perspicuous examples of meaningful additional aspects of the situation or domain. After seeing a sufficient number of examples, the student learns to recognize these new aspects. Instructional maxims can then refer to these new situational aspects, recognized on the basis of experience, as well as to the objectively defined nonsituational features recognizable by the novice.

The advanced beginner driver uses (situational) engine sounds as well as (nonsituational) speed in deciding when to shift. He or she learns the following maxim: Shift up when the motor sounds like it is racing and down when it sounds like it is straining. Engine sounds cannot be adequately captured by a list of features, so features cannot take the place of a few choice examples in learning the relevant distinctions.

With experience, the chess beginner learns to recognize overextended positions and how to avoid them. Similarly, he or she begins to recognize such situational aspects of positions as a weakened king's side or a strong pawn structure, despite the lack of precise and situation-free definitions. The player can then follow maxims such as the following: Attack a weakened king's side. Unlike a rule, a maxim requires that one already have some understanding of the domain to which the maxim applies (Polanyi, 1958). Still, at this stage, learning can be carried on in a detached, analytic frame of mind, as the student follows instructions and is given examples.

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Stage 3: Competence

With more experience, the number of potentially relevant elements and procedures that the learner is able to recognize and follow becomes overwhelming. At this point, because a sense of what is important in any particular situation is missing, performance becomes nerve-wracking and exhausting, and the student might well wonder how anybody ever masters the skill.

To cope with this overload, and to achieve competence, people learn, through instruction or experience, to devise a plan or choose a perspective that then determines those elements of the situation or domain that must be treated as important and those that can be ignored. As students learn to restrict themselves to only a few of the vast number of possibly relevant features and aspects, understanding and decision making becomes easier.

Naturally, to avoid mistakes, the competent performer seeks rules and reasoning procedures to decide which plan or perspective to adopt. But such rules are not as easy to come by as are the rules and maxims given beginners in manuals and lectures. Indeed, in any skill domain, the performer encounters a vast number of situations differing from each other in subtle ways. There are, in fact, more situations than can be named or precisely defined, so no one can prepare for the learner a list of types of possible situations and what to do or look for in each. Students, therefore, must decide for themselves in each situation what plan or perspective to adopt without being sure that it will turn out to be appropriate.

Given this uncertainty, coping becomes frightening rather than merely exhausting. Prior to this stage, if the rules do not work, the performer, rather than feeling remorse for his or her mistakes, can rationalize that he or she had not been given adequate rules. But because at this stage the result depends on the learner's choice of perspective, the learner feels responsible for his or her choice. Often, the choice leads to confusion and failure. But sometimes, things work out well, and the competent student then experiences a kind of elation unknown to the beginner.

A competent driver, leaving the freeway on an off-ramp curve, learns to pay attention to the speed of the car not to whether to shift gears. After taking into account speed, surface condition, criticality of time, and so forth, the competent driver may decide he or she is going too fast. The driver then has to decide whether to let up on the accelerator, remove his or her foot altogether, or step on the brake, and precisely when to perform any of these actions. The driver is relieved if he or she gets through the curve without mishap and is shaken if he or she begins to go into a skid.

The Class A chess player, here classed as competent, may decide after studying a position that the opponent has weakened his or her king's defenses so that an attack against the king is a viable goal. If the player chooses to attack, he or she ignores weaknesses in his or her own position created by the attack, as well as the loss of pieces not essential to the attack. Pieces defending the enemy king become salient. Because pieces not involved in the attack are being lost, the timing of the attach is critical. If the competent player attacks too soon or too late, his or her pieces will have been lost in vain, and he or she will almost surely lose the game. Successful attacks induce euphoria, whereas mistakes are felt in the pit of the stomach.

If we were disembodied beings, pure minds free of our messy emotions, our responses to our successes and failures would lack this seriousness and excitement. Like a computer, we would have goals and succeed or fail to achieve them but, as John Haugeland once said of chess machines that have been programmed to win, they are good at attaining their goal, but when it comes to winning, they do not give a damn. For embodied, emotional beings like us, however, success and failure do matter. So the learner is naturally frightened, elated, disappointed, or discouraged by the results of his or her choice of perspective. And, as the competent student becomes more and more emotionally involved in the task, it becomes increasingly difficult to draw back and adopt the detached maxim-following stance of the advanced beginner.

But why let learning be infected with all that emotional stress? Have not we in the West, since the Stoics, and especially since Descartes, learned that to make progress, we must master our emotions and be as detached and objective as possible? Would not rational motivation, objective detachment, honest evaluation, and hard work be the best way to acquire expertise?

Although it might seem that involvement could only interfere with detached rule testing, and so would inevitably lead to irrational decisions and inhibit further skill development, in fact, just the opposite seems to be the case. Patricia Benner has studied student nurses at each stage of skill acquisition. She finds that, unless the trainee stays emotionally involved and accepts the joy of a job well done, as well as the remorse of mistakes, he or she will not develop further and will eventually burn out trying to keep track of all

the features and aspects, rules and maxims that modern medicine requires. In the cases of nurses at least, resistance to involvement and risk leads to stagnation and, ultimately, to boredom and regression (Benner, 1984).

In general, if one seeks the safety of rules, one will not get beyond competence. On the other hand, experiencing deeply felt rewards or remorse seems to be necessary for the performer to learn from examples without rules.

One might object that this account has the role of involvement reversed: that the more the beginner is emotionally committed to learning the better, whereas an expert could be, and, indeed, often should be, coldly detached and rational in his or her practice. This is no doubt true, but the beginner's job is to follow the rules and gain experience, and it is merely a question of motivation whether he or she is involved. Furthermore, the novice is not emotionally involved in choosing an action, even if he or she is involved in its outcome. Only at the level of competence is there an emotional investment in the choice of the perspective leading to an action. Then, emotional involvement seems to play an essential role in switching over from what one might roughly think of as a left-hemisphere analytic approach to a right-hemisphere holistic one.

Of course, not just any emotional reaction, such as enthusiasm or fear of making a fool of oneself or the exultation of victory, would do. What matters is taking responsibility for one's successful and unsuccessful choices, even brooding over them—not just feeling good or bad about winning or losing, but replaying one's performance in one's mind step by step or move by move. The point, however, is not to analyze one's mistakes and insights but just to let them sink in. Experience shows that only then will one become an expert.

Stage 4: Proficiency

As the competent performer becomes more and more emotionally involved in a task, it becomes increasingly difficult for him or her to draw back and adopt the detached, rule-following stance of the beginner. If the detached stance of the novice and advanced beginner is replaced by involvement, and the learner accepts the anxiety of choice, he or she is set for further skill advancement.

Then, the resulting positive and negative emotional experiences will strengthen successful perspectives and inhibit unsuccessful ones, and the performer's theory of the skill, as represented by rules and principles, will gradually be replaced by situational discriminations. Proficiency seems to develop if, and only if, experience is assimilated in this embodied, atheoretical way.

As usual, this can be seen most clearly in cases of action. As the performer acquires the ability to discriminate among a variety of situations, each entered into with involvement, plans are evoked, and certain aspects stand out as important without the learner standing back and choosing those plans or deciding to adopt that perspective. When the goal is simply obvious, rather than the winner of a complex competition, there is less doubt as to whether what one is trying to accomplish is appropriate.

At this stage, the involved, experienced performer sees goals and salient aspects but not what to do to achieve these goals. This is inevitable because there are far fewer ways of seeing what is going on than there are ways of reacting. The proficient performer simply has not yet had enough experience with the outcomes of the wide variety of possible responses to each of the situations he or she can now discriminate among to react automatically. Thus, the proficient performer, after spontaneously seeing the point and the important aspects of the current situation, must still decide what to do. And to decide, he or she must fall back on detached rule and maxim following.

The proficient driver, approaching a curve on a rainy day, may feel in the seat of one's pants that he or she is going dangerously fast. He or she must then decide whether to apply the brakes or merely to reduce pressure by some specific amount on the accelerator. Valuable time may be lost while making a decision, but the proficient driver is certainly more likely to negotiate the curve safely than the competent driver who spends additional time considering the speed, angle of bank, and felt gravitational forces to decide whether the car's speed is excessive.

The proficient chess player, who is classed a master, can recognize almost immediately a large repertoire of types of positions. He or she then deliberates to determine the move that will best achieve his or her goal. One may know, for example, that he or she should attack, but he or she must calculate how best to do so.

Stage 5: Expertise

The proficient performer, immersed in the world of his or her skillful activity, sees what needs to be done but decides how to do it. The expert not only sees what needs to be achieved; thanks to his or her vast reper-

toire of situational discriminations, he or she also sees immediately how to achieve this goal. Thus, the ability to make more subtle and refined discriminations is what distinguishes the expert from the proficient performer. Among many situations, all seen as similar with respect to plan or perspective, the expert has learned to distinguish those situations requiring one reaction from those demanding another. That is, with enough experience in a variety of situations, all seen from the same perspective but requiring different tactical decisions, the brain of the expert gradually decomposes this class of situations into subclasses, each of which requires a specific response. This allows the immediate intuitive situational response that is characteristic of expertise.

The expert driver not only feels in the seat of his or her pants when speed is the issue but also knows how to perform the appropriate action without calculating and comparing alternatives. On the off-ramp, his or her foot simply lifts off the accelerator and applies the appropriate pressure to the brake. What must be done, simply is done.

The chess grandmaster experiences a compelling sense of the issue and the best move. Excellent chess players can play at the rate of 5 to 10 seconds a move and even faster without any serious degradation in performance. At this speed, they must depend almost entirely on intuition and hardly at all on analysis and comparison of alternatives. It has been estimated that an expert chess player can distinguish roughly 100,000 types of positions. For much expert performance, the number of classes of descriminable situations, built up on the basis of experience, must be comparatively large.

A few years ago, we performed an experiment in which an international master, Julio Kaplan, was required to add numbers presented to him audibly at the rate of about one number per second as rapidly as he could while playing 5-second-a-move chess against a slightly weaker but master level player. Even with his analytical mind completely occupied by adding numbers, Kaplan more than held his own against the master in a series of games. Deprived of the time necessary to see problems or construct plans, Kaplan still produced fluid and coordinated play.

Kaplan's performance seems somewhat less amazing when one realizes that a chess position is as meaningful, interesting, and important to a professional chess player as a face in a receiving line is to a professional politician. Almost anyone could add numbers and simultaneously recognize and respond to familiar faces, even though each face will never exactly match the same face seen previously, and politicians can recognize thousands of faces, just as Julio Kaplan can recognize thousands of chess positions similar to ones previously encountered.

That amateur and expert chess players use different parts of the brain has been confirmed by recent MRI research. The researchers report the following:

> We use a new technique of magnetic imaging to compare focal bursts of γ-band activity in amateur and professional chess players during matches. We find that this activity is most evident in the medial temporal lobe in amateur players, which is consistent with the interpretation that their mental acuity is focused on analyzing unusual new moves during the game. In contrast, highly skilled chess grandmasters have more γ-bursts in the frontal and parietal cortices, indicating that they are retrieving chunks from expert memory by recruiting circuits outside the medial temporal lobe. (Amidzic, Riehle, Fehr, Weinbruch, & Elbert, 2001, p. 603))

It should be noted that the assumption that experts "are retrieving chunk's [i.e., representations of typical chess positions] from memory" is in no way supported by this research. What the research does suggest, however, is the researcher's weaker claim that

> these marked differences in the distribution of focal brain activity during chess playing point to differences in the mechanisms of brain processing and functional brain organization between grandmasters and amateurs. (Amidzic, Riehle, Fehr, Weinbruch, & Elbert, 2001, p. 603)

What is going on in the brain in these different cases is not shown by this data, but phenomenological description shows that a beginner calculates using rules and facts just like a heuristically programmed computer, but that with talent and a great deal of involved experience, the beginner develops into an expert who intuitively sees what to do without recourse to rules. The tradition has given an accurate description of the beginner and of the expert facing an unfamiliar situation, but normally an expert does not calculate. He or she does not solve problems. He or she does not even think. He or she just does what normally works and, of course, it normally works.

Table 1. Five Stages of Skill Acquisition

Skill Level	Components	Perspective	Decision	Commitment
1. Novice	Context free	None	Analytic	Detached
2. Advanced beginner	Context free and situational	None	Analytic	Detached
3. Competent	Context free and situational	Chosen	Analytic	Detached understanding and deciding; involved outcome
4. Proficient	Context free and situational	Experienced	Analytic	Involved understanding; detached deciding
5. Expert	Context free and situational	Experienced	Intuitive	Involved

Note: Components: This refers to the elements of the situation that the learner is able to perceive. These can be context free and pertaining to general aspects of the skill or situational, which only relate to the specific situation that the learner is meeting. Perspective: As the learner begins to be able to recognize almost innumerable components, he or she must choose which one to focus on. He or she is then taking a perspective. Decision: The learner is making a decision on how to act in the situation he or she is in. This can be based on analytic reasoning or an intuitive decision based on experience and holistic discrimination of the particular situation. Commitment: This describes the degree to which the learner is immersed in the learning situation when it comes to understanding, deciding, and the outcome of the situation—action pairing.

The skill model can is summarized in the table above.

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Lesson 3

Foundations of Adult Learning

Action: Describe the foundations of an adult learning environment.
Conditions: Given lectures, readings, dialogue, peer and instructor feedback, the Learning Style Inventory, the Experiential Learning Model (ELM), reflection time, development time, and practicums.
Standards: The description will include:
Pratt, Lewin, Process-Content, Kolb, and Experiential Learning Model (ELM)
Knowles's adult learning principles and assumptions
Wlodkowski's pillars of learning motivation
Learning Domain - Level: None assigned
No JPME Learning
Areas Supported: None

c. Legal and Ethical Requirements. Instructors are responsible for understanding the legal and ethical requirements of their role in the classroom, which goes beyond the moral principles of the Army Ethic and Army Values to include the unique need to understand copyright law and plagiarism. Refer to Army Doctrine Reference Publication (ADRP) 1 (The Army Profession), Chapter 2 for specifics on the Army Ethic.

(1) Copyright Law. Army instructors should gain a broad understanding of the ramifications of copyright law violations and understand what actions to take if or when they suspect a violation has occurred. Refer to Guidance Concerning Works Protected By Copyright from the General Counsel of the Department of the Army (see TED-T website) or Army Regulation 27-60, Intellectual Property, Chapter 4, Copyrights and Trademarks.

(2) Plagiarism. Army Instructors should understand the concept of plagiarism from their educational institutions perspective: how the educational institution defines it, how to identify it, and ways to mitigate it with their students. Clear explanation of policies, good design and sequencing of requirements, and discussing plagiarism with the students is usually sufficient. Plagiarism is often unintentional and due to lack of understanding about how to cite, give credit where appropriate, and formatting. However, if or when detected or identified, it is incumbent upon the instructor involved to take whatever action is prescribed in the school or organization academic policies.

3-4. Adult Learning and Army University (Army U) Experiential Learning Model

a. Adult Learning.

(1) Understanding how adults learn is a key component of teaching. This understanding arises from acknowledging three important aspects of adult learning – experience, relevance, and reflective thinking.

(2) Experience provides a rich resource for and serves as the basis for adult learning. As a rich resource and basis for adult learning, experience assists Soldiers in developing the learning culture and requisite attitudes, knowledge, competencies, and skills necessary to operate effectively, efficiently, and ethically under conditions of uncertainty and complexity. John Dewey, an American philosopher, psychologist, and educational reformer wrote extensively about teaching, learning, and the influence of experience on those activities. Dewey noted that education relies heavily on connections to experience, and that, “All genuine education comes about through experience.”[1] Turning experience into education requires a concerted effort on the part of both instructors and students. Dewey elaborated on the link between experience and learning stating, “The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative. Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience.”[2] Teacher-centric, lecture-based transmission of information often misses the opportunity for students to use their own experience and knowledge to contribute to the synergy of collaborative, discussion-based

[1] Dewey, J. (1938). Experience and education. New York: MacMillan Co.
[2] Ibid.

approaches for learning retention. Eduard Lindeman, a friend and colleague of John Dewey, wrote that, "In an adult class, the student's experience counts for as much as the teacher's knowledge."[3] He also said, "If knowledge grows, it is because knowing was once a part of experiencing" in recognition of the importance attributed to experience with respect to learning.[4]

(3) Education must engage adult learners to think critically and understand the relevance of what they learn. One of Malcolm Knowles's assumptions about adult learners is that adults are more interested in learning subjects that have immediate relevance and impact to their job or personal life.[5] Edward Lindeman expanded on this thought, noting that adults learn not for the purpose of accumulating knowledge, but because learning provides context and relevance to the learner's facts and experiences.[6] For adults, learning retention ties closely to relevance or value to the subject. This concept is also supported by neuroscience that demonstrates as our brains mature, they become more selective in what memories and information are transferred to long-term memory storage; information that does not seem to have future value is more likely to be discarded.[7] Student understanding of learning content relevance ties into the learner motivation to learn. Raymond Wlodkowski describes four integrated factors that combine to enhance adult motivation to learn: success, volition, value, and enjoyment. Students tend to be more motivated if they believe they can be successful in the learning activity, if they have some choice (volition) in how they pursue their learning, if they see the relevance or value of what they are learning, and if they enjoy the learning activity or experience.[8] Army training and education often represent learning that Soldiers must master to prevail in unified land operations. Soldiers must recognize the relevance of what they learn in order to retain the knowledge and skills that they will need to employ in the future.

(4) Adult learners learn to make defensible judgments about uncertain complex problems through the process of reflective thinking. Reflective thinking occurs when adult learners connect experiences and prior knowledge through reflective judgment to construct new understanding of those uncertain complex situations.[9] Education must facilitate adult learners in becoming reflective thinkers. Reflective thinking requires the continual evaluation of beliefs, assumptions, and hypotheses against existing information and against other plausible interpretations.[10]

b. Army Learning Model and the Army U Experiential Learning Model[11]

[3] Lindeman, E. (1926). The meaning of adult education. Montreal: Harvest House
[4] Ibid.
[5] Knowles, M. (1980). The modern practice of adult education: From pedagogy to andragogy. Englewood Cliffs, NJ: Cambridge Adult Education.
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[7] Medina, J. (2014). Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School. Seattle: Pear Press.
[8] Wlodkowski, R. & Ginsberg, M. (2017). Enhancing Adult Motivation to Learn: A Comprehensive Guide for Teaching All Adults. San Francisco: Jossey-Bass Publishers.
[9] Dewey, J. (1938). Experience and education. New York: MacMillan Co.
[10] King, P. & Kitchener, K. (1994). Developing Reflective Judgment: Understanding and Promoting Intellectual Growth and Critical Thinking in Adolescents and Adults. San Francisco: Jossey-Bass Publishers
[11] Kolb, D.A. (1984). Experiential Learning: Experience as the Source of Learning and Development. Pearson Education, Inc.

Lesson 4

Foundations of Instruction (ELM)

Action: Demonstrate the Experiential Learning Model (ELM).
Conditions: Given lectures, readings, dialogue, peer and instructor feedback, the Learning Style Inventory, reflection time, development time, and practicum.
Standards: The demonstration will include the following:
Concrete Experience
Publish and Process
Generalize New Information(GNI)
Develop (Value).
Apply (Check on Learning)
Learning Domain - Level: None assigned
No JPME Learning
Areas Supported: None

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Foundations of Adult Learning
Appendix B: The Experiential Learning Model

The origin of the Experiential Learning Model (ELM) is at best vague. It has evolved through use and misuse over at least the last decade. What most probably began as a three step model later morphed into the five step model currently used. The ELM shares key aspects with several other models proposed by various prominent 20th century adult educators and education theorists. This section describes the connections to these other interpretations of the learning process as it applies to how we teach and train in Army classrooms and training sites.

David Kolb, a contemporary American educational theorist, said that "Learning is the process whereby knowledge is created through the transformation of experience." Along with a colleague, Ron Fry, he developed a model for the Experiential Learning Cycle comprising four elements: a concrete experience, observation and reflection on that experience (reflective observation), formation of abstract concepts based upon the reflection (abstract conceptualization), and then testing the new concepts (active experimentation). Kolb wrote that learning can begin with any of the four elements, but most often begins with the concrete experience.

The ELM is most often described as a variation of the four stages of Kolb's Experiential Learning Cycle. This is a useful comparison that facilitates correlation with Kolb's Learning Styles. Such a correlation helps highlight the value of the ELM as a means of meeting the learning needs of a group of adult learners with diverse learning preferences, particularly with respect to how they acquire and process new information in their individual learning endeavors.

Kolb's is not the only experiential learning model in use today. Other interpretations of the experiential learning process range from a 3-step version used in adventure education to Jarvis's 9-step model. In his model, Jarvis attempts to account for both the learning and non-learning roles of experience, and for both the reflective and non-reflective process of learning through experience. Kolb's model has also been criticized by some authors for its imperfect modeling of the learning process:

- It pays insufficient attention to the process of reflection (Boud, et al, 1983).
- The claims made for the four different learning styles are extravagant (Jarvis, 1987; Tennant, 1997).
- The model takes very little account of different cultural experiences/conditions (Anderson 1988).
- The idea of stages or steps does not sit well with the reality of thinking (Dewey, 1933).
- Empirical support for the model is weak (Jarvis, 1987; Tennant, 1997).
- The relationship of learning processes to knowledge is problematic (Jarvis, 1987).

However, as one of those critics acknowledged,

The model provides an excellent framework for planning teaching and learning activities and it can be usefully employed as a guide for understanding learning difficulties, vocational counseling, academic advising and so on (Tennant, 1997).

Kolb's Experiential Learning Cycle is itself based on the work of other prominent authorities in adult education theory. Kolb drew heavily on the concepts presented by John Dewey, Kurt Lewin, and Jean Piaget to develop his model. Other interpretations of the experiential learning process have contributed to the current construct. A comparison of these models is shown in Table 1.

The ELM is very closely related to Kolb's Experiential Learning Cycle. Like Kolb, the ELM recognizes that in a classroom or training location, students may move through the separate elements of the model in a non-sequential manner. However, consistent with Tennant's view of the model as a "framework for planning teaching and learning activities," most lesson plans are written to begin with the *concrete experience* and flow sequentially through the other steps of the ELM. Thus, the ELM provides a logical and organized plan for instructors to present instruction, while also giving them the latitude to adjust to students' in-class excursions that reflect the non-sequential reality of learning.

While it is clear that there are significant similarities among the various models that are the basis of the ELM, there are also some important nuances that must be appreciated to realize the full effectiveness of the model in the design and delivery of the instruction. Specifically, the interpretation and application of the *concrete experience* within this model is much broader than described by other theorists. This makes it more versatile and flexible than many instructors realize.

In the ELM, the *concrete experience* may actually be a cognitive exercise in which the student recalls a past experience. Thus, it is the connection to past, present, or future (hypothesized) experience that form the basis of the learning event or activity. In fact, it may be through the creation or recollection of an imagined experience that the lesson is constructed. The key components of the *concrete experience* are that it is something that creates an affective learning opportunity, that it is the "hook" that piques a student's interest in learning the particular topic, and that it provides a touchstone for the cognitive content-focused portion of the lesson that is the *generalize new information* step.

A Five-Step Process

Concrete Experience. The *concrete experience*, or CE, serves as a trigger of past experience and knowledge, a focusing mechanism for the lesson that follows, and a support for the teaching of new content. The CE's role as a trigger is essential as it forces the student to connect the topic at hand with his or her understanding of it. This understanding is the result of experience, previous knowledge, and reflection on their intersection.

Secondly, the CE brings the topic into focus for the entire group. More importantly, the CE is the first opportunity to appeal to the student's affective domain behavior of "valuing," which is essential if the lesson content is to be internalized or learned.

Finally, the CE supports the teaching of the new content by providing a common "experience" that is connected to the new content of the GNI. If the lesson is on decision making, then a CE of a poor decision could be used to illuminate proper decision making.

The CE that is capable of all this can be a single word, such as "torture," a short vignette, or short video clip. For the teacher, the CE marks not only the beginning of the lesson but the start of the "marketing campaign" to sell the new content to the student. If done properly, this effort can create a situation where the student "pulls" the content from the teacher instead of the teacher having to "push" the content to the student.

Publish and Process. The first component of the P&P, *publish*, solicits students' observations about what they observed in the CE, typically with a question like, "what did you see?" or "what happened?" Then, in the second component, students are asked to "process" their reactions to what they saw and how their views compared with those of their classmates. A simple question to initiate this affective processing is "what's your reaction?" In this *publish and process* students take the first step in their learning by connecting their experience and knowledge to the topic at hand. The desired and normally occurring situation is a "publish" that produces a wide variety of student observations. This is the foundation for the "process" component of the P&P. The "process" may very well be the most important aspect of the entire ELM process. It is here that the student begins a reconciliation of where he or she is and, if successful, where the he or she will be at lesson end. Not so obvious, but perhaps more important, is that this reconciliation has the potential to reveal student bias and other preconceptions that must be

dealt with if learning is to occur. It is during this step that evidence of students' critical thinking skills should begin to emerge as they consider alternative points of view and examine their own assumptions and biases.

Generalize New Information. After the students have "published" and "processed," the teacher must assess where the students are, compared to where they must be at the end of the lesson to achieve the enabling learning objective, i.e., the "delta" between what they know and what they need to know. Additionally, the P&P may illuminate points that the instructor can make during GNI that will connect back to the CE and reinforce a sense of value in the lesson material. This sense of value should be initiated during the CE and P&P, reinforced during the GNI, and ultimately expressed by the students during the *develop* step of the ELM. Mastery of the content taught during the GNI is verified during the *apply* step.

Often, GNI is thought of as the "lecture" portion of the ELM. However, the specific teaching technique used can include lecture, discussion, role play, simulation, or any of several other delivery approaches. A common misconception voiced by those new to the ELM is that discussion is the principle content delivery method. The key is to use a technique that is appropriate to the content, learning domain and level, student prior knowledge and expertise, and time available.

Develop. This seems to be the most confusing ELM step for instructors, and for students as well. Some confusion with the *develop* step of the ELM may result from the term also describing a step of the ADDIE process or from a past expression of the ELM which named this step "Develop Courses of Action." In the ELM, a better word than *develop* might be *value*. Albeit a bit late, this step of the ELM serves to ensure that the student sees the relevance of the GNI just presented and learned. This is not the place to *establish* value; instead, this is the opportunity for students to *express* their appreciation of the value that was initiated during the CE, and reinforced throughout the P&P and GNI. Evidence of the students' value for the knowledge should have been observed in student comments and participation throughout the first three steps of the ELM. For example, during GNI a student might say something like, "This is really going to be helpful to me in my next job as a planner," or "I can even use this process to negotiate a better deal on a new car." These are examples of unsolicited comments that complete the *develop* step, perhaps even before you reach that step of the ELM. The *develop* step also offers another opportunity for the instructor to observe the students' critical thinking skills as they formulate their expressions of the purpose of the learning and why it is significant to them.

Apply. The final step of the ELM is the *apply.* This is often referred to as the "assessment" or "test." It must be emphasized, however, that, while the *apply* may resemble a test, the focus of the apply is more as a feedback tool for the instructor, a *check on learning* to confirm that he or she has adequately and successfully taught the lesson—it is a measure of the instructor's effectiveness. This is a last check to ensure that the students understand the material. If there are still unanswered questions or confusion, the instructor can return to the GNI to fill in the holes before the students are dismissed, or at least can identify points that need to be reinforced in a subsequent lesson to ensure the students possess the knowledge that they need. In contrast, an assessment or test is a *measure* of the students' mastery of skills or knowledge that they will need. The assessment may be delayed to provide students time to complete a written assignment, a group exercise, or any number of other appropriate assessment instruments. But the *apply* step should not be delayed since it enables the instructor to confirm that he or she has been successful in helping the students reach the enabling learning objective, at the prescribed learning level, and as defined by the standards of the ELO. This may be accomplished using formal or informal classroom assessment techniques.

The *apply* step is also often confused by instructors. Because of the similarity of the *apply* with the "test" or "assessment," the term "delayed apply" has come into common use (and has been reinforced in past faculty development classes). However, as previously discussed, these terms have very distinct meanings. In fact, they are even covered in separate paragraphs of the lesson plan. As the final step of

the ELM, the *apply* is described in paragraph 6 of the lesson plan that describes the conduct of the lesson. The assessment or test is described in paragraph 7, and in Appendix A of the lesson plan, delineating the specific graded requirements, instruments, and weights for the lesson or block of instruction. In the "apply," the instructor has great latitude in how to determine whether he or she has successfully taught the lesson; in the assessment, the instructor may not deviate from the requirements set out in the assessment plan.

As in the develop step, students may dip into the apply step before the previous steps have been fully completed. During a discussion-based GNI, for example, it is likely that students will demonstrate their understanding—or lack thereof—regarding the lesson content. Depending on the students' engagement in the discussion, it may not be necessary to conduct a detailed *apply* at the end of the lesson, but this step should be neither omitted nor delayed.

Common *Myths* of the ELM

- The ELM is a rigid, sequential process that must be followed in each class session.
- The *concrete experience* (CE) should not be directly related to the lesson content. Instead, it should serve as an analogy for the lesson.
- The *CE* must involve students in an active, hands-on experience.
- The *GNI* is the lecture portion of the ELM.
- The *apply* is the "test" and may be delayed.
- The ELM is incompatible with training, inquiry-based learning, or outcomes-based educational approaches.
- The ELM is not appropriate for topics in which students do not have a significant reservoir of experience.
- The instructor may conduct the ELM steps in any order.***

Comparison of Experiential Learning and Teaching Models

Dewey (1938)	Piaget (1950)	Lewin (1951)	Pfeiffer & Jones (1975)	Kolb (1984)	9 Steps of Instruction (Gagne, 1985)	ELM (c. 1998)	SGITC ELC (c. 1998)	Brain-based Teaching (Clark, 2010)
1. Impulse	1. Concrete Phenomenalism	1. Concrete Experience (Unfreezing)	1. Experiencing	1. Concrete Experience	1. Gain Attention 2. Inform Learner of Objective	1. Concrete Experience	1. Experiencing (structured activity)	1. Focus Attention
2. Observation	2. Internalized Reflection	2. Observations and reflections (Participant observation)	2. Publishing 3. Processing	2. Reflective Observation	3. Stimulate Recall of Prior Information	2. Publish and Process	2. Publishing (sharing reactions) 3. Processing (analyze shared reactions)	2. Engage Learners to Promote Processing
3. Knowledge	3. Abstract Constructionism	3. Formation of abstract concepts and generalizations (Cognitive aids)	4. Generalizing	3. Abstract Conceptual-ization	4. Present Information 5. Provide Guidance	3. Generalize New Information	4. Generalizing (form/apply principles)	3. Manage Mental Load
4. Judgment	4. Active Egocentrism	4. Testing implications of concepts in new situations (Feedback)	5. Applying	4. Active Experimen-tation	6. Elicit Performance 7. Provide Feedback 8. Assess Performance 9. Enhance Retention and Transfer	4. Develop 5. Apply	5. Applying (apply to actual situations)	4. Ensure Learning Transfer via Retrieval

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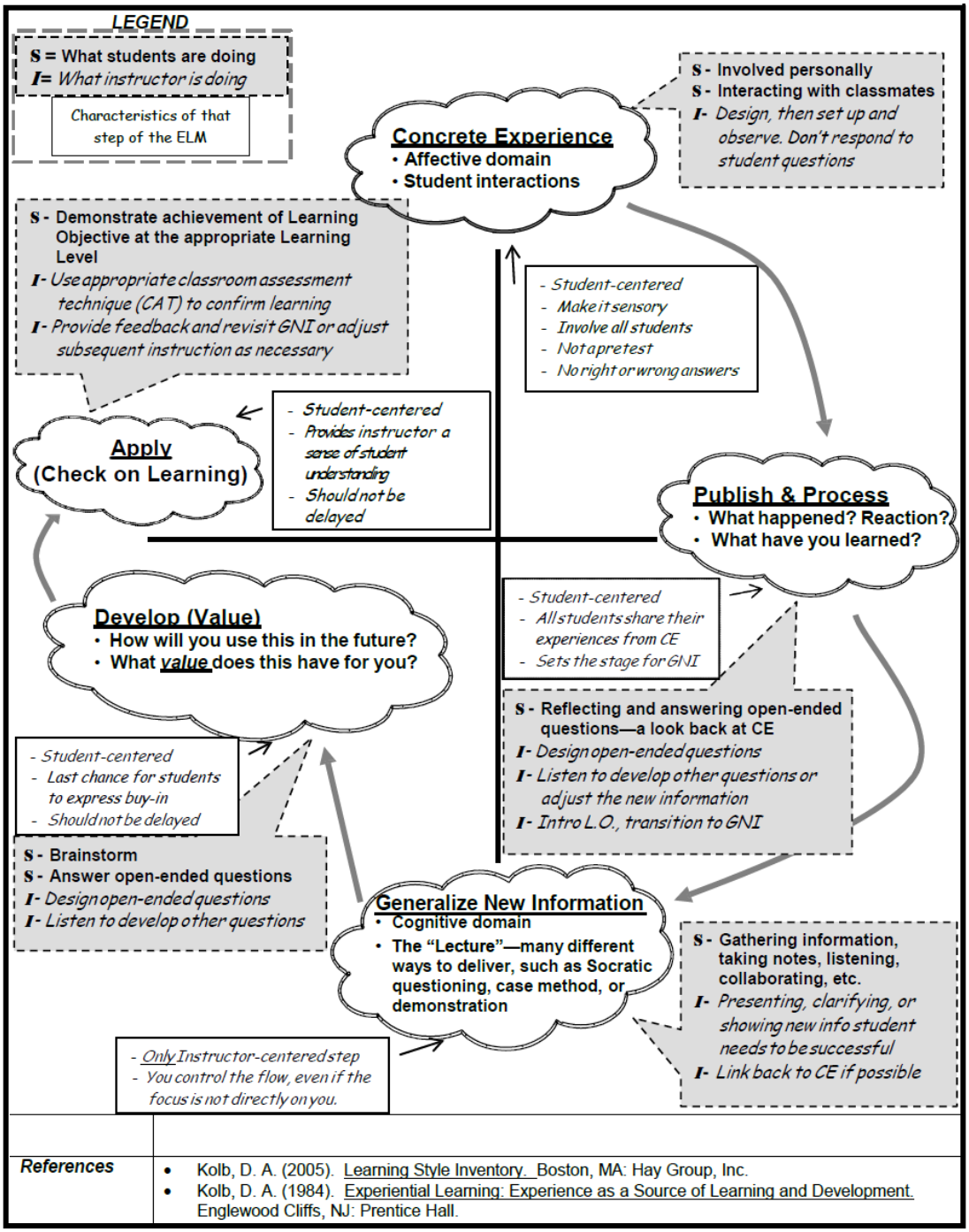
Foundations of Adult Learning
Appendix C: The Experiential Learning Model Job Aid



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Lesson 4: Foundations of Instruction (Experiential Learning)
Appendix G: Relationships between Learning Domains, Levels of Learning, and Learning Objectives

Introduction

Objectives are the cornerstones of learning. Objectives are developed for all levels of instruction where measurement of learning is required.

Learning Domains

One of the most common ways to categorize types of learning is according to the following learning domains:

Cognitive Domain:	The cognitive domain refers to intellectual skills. Intellectual skills consist of discrimination, concept, rule-using, and problem-solving capabilities. Educational environments commonly focus on intellectual skills.
Psychomotor Domain:	The psychomotor domain refers to motor skills.
Affective Domain:	The affective domain concentrates on emotions, beliefs, attitudes, values, and feelings.

Relationship between Learning Domains and Levels of Learning.

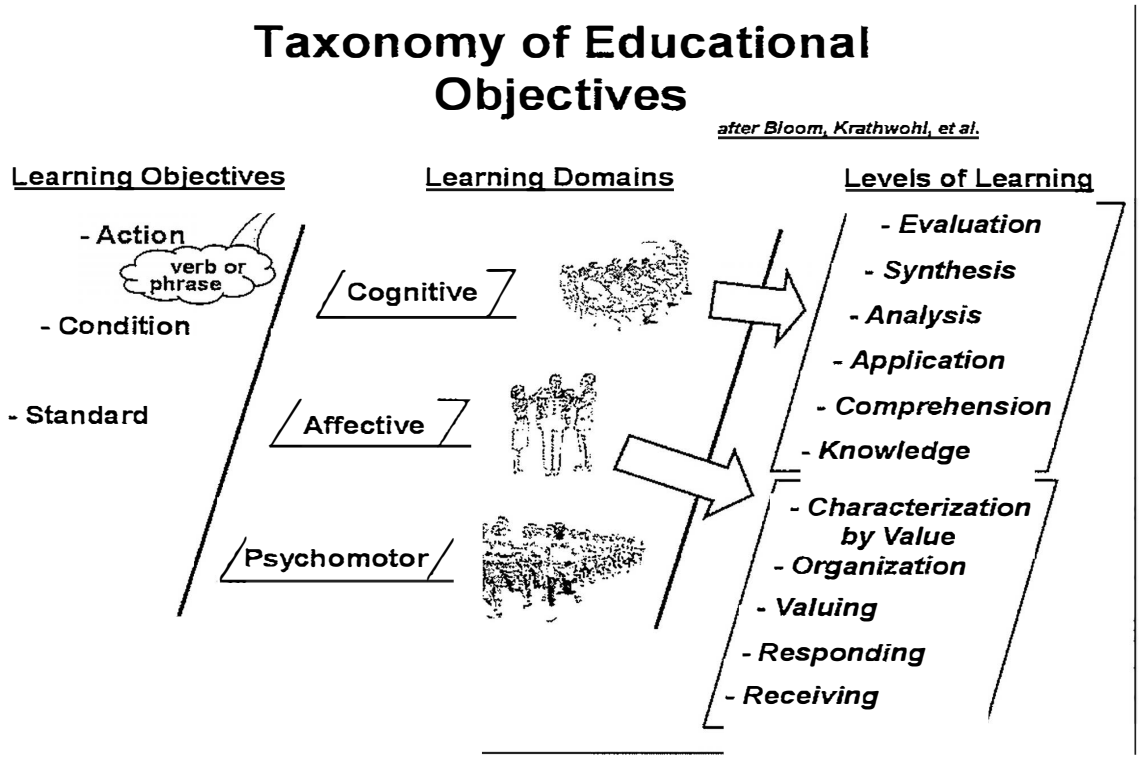
Each of the learning domains is broken down into identifiable levels that progress from the lowest level through increasingly more complex levels, and finally to the highest complexity level. For the cognitive domain (the focus of most topic-based learning), Bloom et al, in *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain,* identified six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. The progression is from the simple recall or recognition of facts at the lowest level, through increasingly more complex and abstract mental levels, to the highest order that is classified as evaluation.

The affective domain is also divided into levels of learning that progress from receiving at the lowest level to characterizing by value or value complex at the highest level.

Relationship Between Learning Objective Action Verb and Level of Learning.

Certain words tend to imply certain types of behavior. "Name," for instance, requires the student to recall the name of a person, place, or thing (PPT). "Describe" requires the student to not only know what the PPT is but also go one step higher and give examples of the PPT. "Give examples" requires a higher level of cognition on the part of the student and this elevates the learning level.

Select the appropriate action verb for each objective being taught. The action verb tells what behavior the student is expected to demonstrate. Although action verbs are an indication of the level of learning expected, look at the total behavioral statement (action statement, condition, and standard) in order to accurately determine the learning objective level.



Taxonomy of Educational Objectives

Cognitive Domain
(Levels of Learning with Related Action Verbs)

The cognitive domain deals with acquiring, recognizing, and manipulating facts; developing the intellectual skills to effectively break down these facts into their components; and recognizing the organization and relationships of the components. These developmental levels are knowledge, comprehension, application, analysis, synthesis, and evaluation.

1. **Knowledge.** The recall/remembering of previously learned materials (facts or theories) in essentially the same form as taught.

Example: The student will list the steps of the Military Decision Making Process (MDMP).

Action Verbs

Arrange	Define	Identify	Label
List	Match	Name	Recall
Reproduce	Select	State	

2. **Comprehension.** Seeing relationships, concepts, and abstractions beyond the simple remembering of the material.

Example: The student will explain the steps of the MDMP.

Action Verbs			
Classify	Convert	Defend	Describe
Discuss	Distinguish	Estimate	Explain
Generalize	Locate	Outline	Paraphrase
Relate	Summarize		

3. **Application.** The ability to use the appropriate learned material in new and concrete situations.

Example: Given a situation, the student will produce a decision using the MDMP.

Action Verbs			
Calculate	Change	Construct	Demonstrate
Develop	Employ	Manipulate	Modify
Operate	Organize	Predict	Produce
Restructure	Sketch	Solve	Use

4. **Analysis.** The ability to break down material into its constituent parts and determine how the parts relate to one another and the overall structure and purpose.

Example: The student will examine the MDMP.

Action Verbs			
Analyze	Compare	Contrast	Diagram
Differentiate	Disassemble	Examine	Illustrate
Interpret	Investigate	Separate	

5. **Synthesis.** The ability to put parts together to form *new* patterns or structures, such as a unique set of abstract relations used as a scheme for classifying information.

Example: Using the product of the analysis learning level, other previous learning, and experience, the student will design a new decision making process.

Action Verbs			
Combine	Compose	Create	Derive
Design	Devise	Extend	Formulate
Fuse	Generate		

6. **Evaluation.** The ability to judge, using internal standards and external criteria, the value of material for a given purpose. Learning in this area is the highest in the cognitive hierarchy because it involves elements of all the other categories, plus conscious value judgments based on clearly defined criteria.

Example: Using the MDMP and other available processes, the student will judge the effectiveness of the new process created in the synthesis learning level.

Action Verbs

Appraise	Assess	Criticize	Decide
Judge	Justify	Rate	Validate

For the lesson author, the cognitive domain serves as a controlling mechanism for the entire lesson. In using the learning levels discussed above, the lesson author not only sets the intellectual depth for the content to be taught but also establishes student assessment of learning requirements as well. The learning level of content taught must match the learning level of the assessment. Another less obvious cognitive domain controlling feature is the matter of time required to teach the class. What is possible at the knowledge level in two hours is quite impossible at the analysis level given a similar time constraint. A final controlling aspect is that the learning level of the lesson also defines success. If the content requires an analysis of MDMP, then *all* students must be able to accomplish this when their learning is assessed.

Affective Domain
(Levels of Learning)

For the affective domain, Krathwohl, Bloom, and Masia, in their book *Taxonomy of Educational Objectives, Handbook II: Affective Domain* identified five levels: receiving, responding, valuing, organization, and characterization of a value or value complex. The progression among these five levels is from simply being aware through an organized internalization of an attitude or value which becomes the defining characteristics of that person.

1. **Receiving (Attending).** The getting, holding, and directing of the student's attention, from the simple awareness that a thing exists to selective attention on the part of the learner. Receiving (by the student) has three sublevels: *Awareness, willingness to receive,* and *controlled or selected attention.*

Characteristics for Affective Domain, Receiving

Sublevel	**Characteristics**
Awareness	Observes, with increasing recognition, the differences in....
	Awareness of the attitudes of others....
	Recognizes the nuances of the written or spoken word...
	Recognizes nonverbal behaviors....
Willingness to receive	Listens to other points of view....
	Attends to the surroundings....
	Accepts differences in cultures....
Controlled or selected attention	Listens to and remembers....
	Preference for....
	Keeps informed on....

Responding. The student not only attends to a particular phenomenon, but also reacts to it in some way, such as reading the assignment or reading for enjoyment. The instructional objectives relate to "interests." The three sublevels of responding are *acquiescence in responding, willingness to respond,* and *satisfaction in responding.*

Characteristics for Affective Domain, Responding

Sublevel	Characteristics
Acquiescence in responding	Willingness to comply....
	Observes the rules....
Willingness to respond	Voluntarily reads....
	Responds with active interest....
	Participates actively in....
Satisfaction in responding	Finds pleasure in....
	Discovers many new areas or ways of...

3. **Valuing.** The worth or value a student attached to a particular object, phenomenon, or behavior ranging from acceptance of a value to commitment. Instructional objectives relate to "attitudes" and "appreciation." The three sublevels of valuing are *acceptance of a value, preference for a value,* and *commitment or conviction.*

Table a-1. Characteristics for Affective Domain, Valuing

Sublevel	Characteristics
Acceptance of a value	Feels as a member of a group....
	Continuing desire to develop the ability to....
Preference for a value	Encourages other to...
	Assumes an active role in....
	Initiates group action for the improvement of....
Commitment or conviction	Loyalty to....
	Faith in the methods of....
	Devotion to....

4. **Organization.** The bringing together of different values, resolving conflicts between them, and beginning to build an internally consistent value system. Instructional objectives relate to a "philosophy of life." The two sublevels of organization are *conceptualization of a value* and *organization of a value system.*

Table a-2. Characteristics for Affective Domain, Organization

Sublevel	Characteristics
Conceptualization of a value	Attempts to identify the characteristics of....
	Synthesizing the basic assumptions of....
	Symbolic or abstract thought is shown by....
Organization of a value system	Weighs alternatives between....
	Develops techniques for resolving disparate values....

5. **Characterizing by a Value or Value Complex.** Pervasive, consistent, and predictable behavior (lifestyle) developing from a value system which controls behavior for a significant period of time.

Instructional objectives focus on personal, social, and emotional adjustments are in this category. The two sublevels are *generalized set* and *characterization.*

Table a-3. Characteristics for Affective Domain, Characterizing by a Value or Value Complex

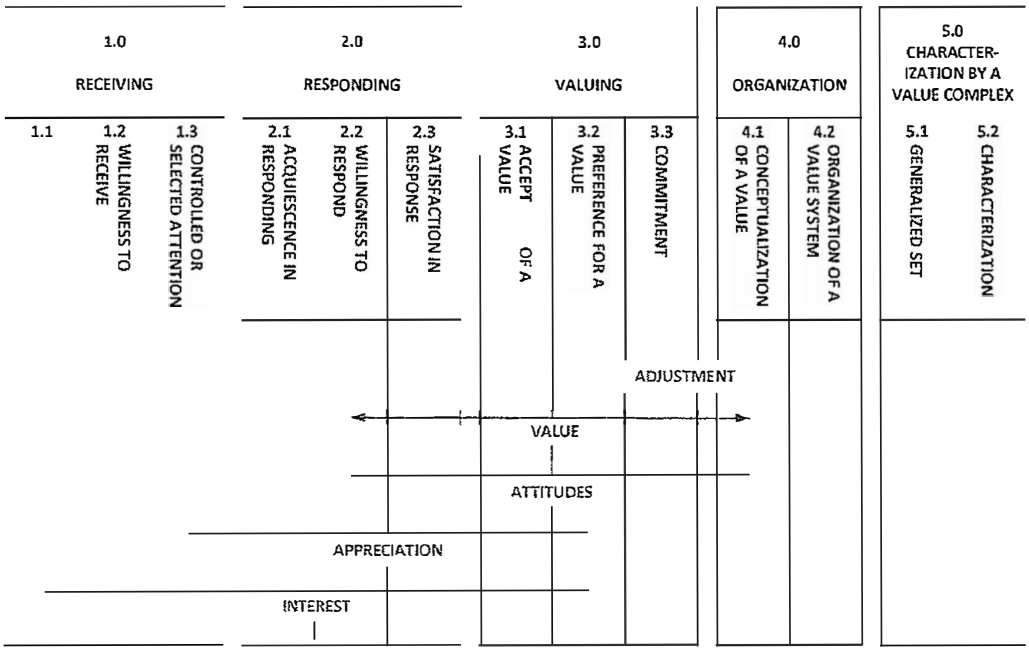
Sublevel	Characteristics
Generalized set	Readiness to revise judgments....
	Willingness to change opinion when facts and conclusions indicate....
Characterization	Develops a consistent philosophy of....
	Develops behaviors based on ethical principles consistent with....

The Relationship of the Affective Domain Structure and Common Affective Terms

The foregoing offers a foundational summary for the use of the affective domain in lesson authoring. Why should the lesson author care about the affective domain? Simply put, an examination of the affective domain may be more important to the lesson author than a similar treatment of the cognitive domain. This is because the affective domain offers the means for the student to internalize the new material. Without this internalization, the new material does not become part of the student. Internalization can only be accomplished through Bloom's development of a "value complex" to guide the student's behavior or, similarly, Piaget's modification of the student's "organization" though accommodation and/or assimilation of the new material. In the end, internalization is key as it is both a destination and journey of student learning.

As shown in the following figure, Krathwohl, Bloom, and Masia add terms that represent student reaction-to-content, or behavior, that a teacher might see in the classroom. The terms that represent student behavior—interest, appreciation, attitude, value, and adjustment—offer the teacher a sense of student location in the *internalization* process. They are defined by the range of objectives they cover; they move from simple to complex and from concrete to abstract (Krathwohl, 1964). Less obvious is the role of emotions in the continuum; emotions are low at either end of the continuum and peak near the center. The center of the continuum offers the greatest opportunity for emotions to contribute to internalization as represented by terms such as satisfaction, acceptance, preference, and commitment.

Affective Terms for the Internalization Process



The range of meaning typical of commonly used affective terms measured against the *Taxonomy* continuum.
(Krathwohl, D.R., Bloom, B.S., Masia, B.B. (1964) *Taxonomy of Educational Objectives*. White Plains, NY: Longman Inc.)

The Meaning of Affective Terms Measured against Bloom's Taxonomy Continuum

The lesson author's role in the *process of internalization* is tied to his or her use of the ELM in the lesson plan. Think of the *concrete experience* and the *publish and process* as the marketing plan of the lesson plan to be developed. The *concrete experience*, which must support the *generalize new information*, primarily acts as a trigger to ignite the student's past experiences related to the lesson topic. The *publish and process* then gets these experiences into the open and allows, or in some cases forces, student reconciliation of his or her own perspective with those expressed by other students. If done properly, these first two steps of the ELM will move the student through the "interest" and "appreciation" phases of the internalization process (Figure A-2). With the integration of the content of the *generalize new information* step of the ELM into the discussion, the student potentially moves into the "attitudes" and "value" phases of the internalization process. The *develop* step of the ELM serves to strengthen "value" phase and prepares the student for the "adjustment" phase of the internalization process. The *apply* phase of the ELM serves the teacher as a means to determine if the student is sufficiently prepared to embark on the "adjustment" journey necessary for the internalization that produces true learning.

The Psychomotor Domain

The psychomotor learning domain applies predominately to a training environment and is not normally addressed in topic-based lesson plans for educational institutions. Thus, these lesson plans should focus on the cognitive and affective domains as reflected in the learning objectives and should identify expected cognitive and affective learning levels as appropriate.

7-12. Instructional strategy and methods of instruction (MOIs)

a. An instructional strategy helps organize and specify the learning activities, MOIs, and how to deliver the content. The strategy should include pre-instructional activities, presentation of information, practice and feedback, assessments, and follow-through activities. Instructional strategies emphasize concepts, theories, relationships, ideas, and generalizations and are designed to achieve an overall goal of imparting knowledge using particular methods of instruction. The method of instruction is a type of activity used to facilitate the accomplishment of a learning objective(s).

b. The ALM calls for outcome-oriented instructional strategies that foster thinking and initiative, provide operationally relevant context, and best fit the learning audience and range of desired outcomes. There are five primary instructional strategies that support the ALM by inculcating 21st Century Soldier Competencies. Select the instructional strategies that align with available instructor/facilitator resources, target audience analysis, command guidance (e.g. use of ALM) and learner throughput requirements. Selection of an instructional strategy will impact the developer's MOI, media selection, and potentially the time of instruction. Instructional strategies include:

(1) **Direct instruction**. Direct instruction is often through instructor/facilitator-led lecture with explanations, examples, and opportunities to practice and provide feedback. Any information for which there is one right answer, and for which that answer is relatively simple, can be taught efficiently and effectively by using direct instruction. This strategy emphasizes the use of carefully sequenced steps so the learner can master a new fact or rule before moving on.

(2) **Independent study**. Independent study is a learning experience that is supervised and controlled by a specialist in the subject, but allows learners to study an agreed upon subject autonomously. Independent study is sometimes referred to as directed study, as it shifts the responsibility for learning from the instructor/facilitator to the learner. It is most frequently used when a learner and a teacher agree upon a topic for further learning.

(3) **Indirect instruction**. Indirect instruction influences the learner to construct knowledge rather than learning material from an instructor. The learner-constructed response differs from the content being used to present the material and any previous response. As with independent study, indirect instruction shifts responsibility for learning from the instructor/facilitator to the learner.

(4) **Collaborative/interactive instruction**. Collaborative/interactive instruction relies heavily on discussion and sharing among participants. It is important for the instructor/facilitator to outline the topic, the amount of discussion time, the composition and size of the groups, and reporting or sharing techniques. The success of the collaborative/interactive instructional strategy and its many methods is primarily dependent upon the expertise of the instructor/facilitator in structuring and developing the dynamics of the group.

(5) **Experiential learning**. Inductive, learner-centered, activity-oriented, personalized reflection about a learning experience and formulation of plans to apply learning to other contexts are critical factors in this strategy. Experiential learning can be viewed as a cycle consisting of five necessary phases. These phases are concrete experience (a trigger of past experience and knowledge); publishing and processing (reactions and observations are shared); generalizing new information (focuses on content and methodology); developing (student-centric focusing on how the lesson will be valuable to the student); and applying (plans are made to use learning in new situations). The key for lesson development is that the lesson plan must contain sufficient detail regarding the five phases to help the instructor/facilitator to enable the learning process.

c. The MOI is a component of the instructional strategy. The MOI is a type of activity used to facilitate the accomplishment of a learning objective(s), is minimally associated with each lesson and is commonly associated with each LSA. Selection of the MOI requires consideration of the learner, the content, the goals, the learning environment, the instructor/facilitator, and the available resources. Specific MOIs require varying degrees of learner participation. While particular methods are often associated with certain strategies, some methods may be found within a variety of strategies. The primary uses and suggested methods of instruction used with each instructional strategy appear in table 7-5.

Table 7-5
Instructional strategy uses with suggested MOIs

Instructional Strategy	Uses & Suggested Methods of Instruction
Direct instruction	**Uses:** This strategy is most effective at teaching knowledge acquisition involving facts, rules, and action sequences. **Suggested MOIs:** compare and contrast, demonstration, drill and practice, guided reading and thinking, lecture, structured overview, tutorial
Independent study	**Uses:** Generally involves research outside of a school setting for an agreed upon amount of credits, this strategy can be self-paced, and can overcome geographical barriers. **Suggested MOIs**: interactive multimedia instruction, tutorial, writing assignments
Indirect instruction	**Uses:** This strategy is best used when presenting concepts, abstractions, or patterns, and when the learning process is inquiry-based, the result is discovery, and the learning context is a problem. Instruction helps learners develop content organization, inductive and deductive reasoning, personal experience(s), and group discussion skills. **Suggested MOIs:** brainstorming, case study, concept mapping, inquiry, problem solving, reflective discussion, tutorial, writing assignments
Collaborative/interactive instruction	**Uses:** Students learn from peers and instructor/facilitators to develop social skills and abilities, to organize their thoughts, and to develop rational arguments. Allows for a range of groupings and collaborative/interactive methods. Collaborative/Interactive instruction requires the refinement of observation, listening, interpersonal, and intervention skills and abilities by both instructor/facilitator and learners. **Suggested MOIs:** brainstorming, cooperative learning groups, debates, discussion (small or large group), interviewing, laboratory groups, panel, peer partner learning, problem solving, role playing, seminar, tutorial
Experiential learning	**Uses:** The emphasis in experiential learning is on the process of learning and not on the product. Experiential learning helps to develop inductive reasoning, analysis, personal reflection, formulating plans, speaking and writing, and lifelong learning attitudes. **Suggested MOIs:** case study, conducting experiments, field observations, field trip/site visit, gaming, model building, practical exercise (hands-on/written), role playing, simulation, storytelling

Kolb Learning Styles
Definitions and Descriptions

Knowing a person's (and your own) learning style enables learning to be orientated according to the preferred method. That said, everyone responds to and needs the stimulus of all types of learning styles to one extent or another - it's a matter of using emphasis that fits best with the given situation and a person's learning style preferences.

Here are brief descriptions of the four Kolb learning styles:

Diverging (feeling and watching - CE/RO) - These people are able to look at things from different perspectives. They are sensitive. They prefer to watch rather than do, tending to gather information and use imagination to solve problems. They are best at viewing concrete situations several different viewpoints. Kolb called this style 'Diverging' because these people perform better in situations that require ideas-generation, for example, brainstorming. People with a Diverging learning style have broad cultural interests and like to gather information. They are interested in people, tend to be imaginative and emotional, and tend to be strong in the arts. People with the Diverging style prefer to work in groups, to listen with an open mind and to receive personal feedback.

Assimilating (watching and thinking - RO/AC) - The Assimilating learning preference is for a concise, logical approach. Ideas and concepts are more important than people. These people require good clear explanation rather than practical opportunity. They excel at understanding wide-ranging information and organizing it a clear logical format. People with an Assimilating learning style are less focused on people and more interested in ideas and abstract concepts. People with this style are more attracted to logically sound theories than approaches based on practical value. These learning style people are important for effectiveness in information and science careers. In formal learning situations, people with this style prefer readings, lectures, exploring analytical models, and having time to think things through.

Converging (thinking and doing - AC/AE) - People with a Converging learning style can solve problems and will use their learning to find solutions to practical issues. They prefer technical tasks, and are less concerned with people and interpersonal aspects. People with a Converging learning style are best at finding practical uses for ideas and theories. They can solve problems and make decisions by finding solutions to questions and problems. People with a Converging learning style are more attracted to technical tasks and problems than social or interpersonal issues. A Converging learning style enables specialist and technology abilities. People with a Converging style like to experiment with new ideas, to simulate, and to work with practical applications.

Accommodating (doing and feeling - AE/CE) - The Accommodating learning style is 'hands-on', and relies on intuition rather than logic. These people use other people's analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans. They commonly act on 'gut' instinct rather than logical analysis. People with an Accommodating learning style will tend to rely on others for information than carry out their own analysis. This learning style is prevalent and useful in roles requiring action and initiative. People with an Accommodating learning style prefer to work in teams to complete tasks. They set targets and actively work in the field trying different ways to achieve an objective.

Lesson 5

Formative Practicum (ELM)

Action: Demonstrate the ability to instruct a lesson using the Experiential Learning Model
Conditions: Given lectures, readings, dialogue, peer and instructor feedback, reflection time, development time, and practicums.
Standards: The demonstration will include the following components:
Concrete Experience (CE) or motivator
Publish and Process (P&P)
General New Information (GNI) or content
Develop (value) or discussion of how to use what was learned in the future
Apply or a check on learning Within an 8-10 minute timeframe*
Learning Domain - Level: None assigned

ADVANCED ORGANIZER
Appendix B

1. Learning Objective

Action: (*This is what the STUDENTS will know or be able to do at the end of the lesson.)*

Condition: (*This is whatever you provide to or withhold from the students in order for them to accomplish the learning objective*.)

Standard: (*This describes how well the student must complete the action.)*

Learning Level: (*Circle one learning level in the appropriate domain(s). May not necessarily be one from each domain.)*

(Cognitive Domain – Listed below from lowest level to highest level)
- **Knowledge**
- **Comprehension**
- **Application**
- **Analysis**
- **Synthesis**
- **Evaluation**

(Affective Domain – Listed below from lowest level to highest level) *Be advised that the higher levels of this domain are extremely difficult to measure.*
- **Receiving**
- **Responding**
- **Valuing**
- **Organizing/conceptualization of a value system**
- **Characterization by complex value**

(Psychomotor Domain – Listed below from lowest level to highest level) *NOTE: Often not appropriate for Small Group Instruction methods*
- **Imitation – Copy action of another; observe and replicate**
- **Manipulation – Reproduce activity from instruction or memory**
- **Precision – Execute skill reliably, independent of help**
- **Articulation – Adapt and integrate skill to satisfy a non-standard objective**
- **Naturalization – Automated, unconscious mastery of activity and related skills**

Method(s) of Instruction:

Direct Methods:
- **a.Lecture**
- **b.Demonstration**
- **c.Drill & Practice**
- **d.Practical Exercise**

Collaborative Methods:
- **a. Topic Discussion**
- **b. Brainstorm**
- **c. Role Play**
- **d. Problem Solving**
- **e. Case Study**

Audience:

2. **Experiential Learning Model (ELM)** *Generally describe what you will do in each step and/or give sample questions if appropriate (i.e., P&P and Develop). Also, as you work your way through the ELM steps consider how much time you will spend in each step realizing that some steps take longer than others.*

TIME: **Concrete Experience (CE) Student Centered (SC)**

TIME: **Publish and Process (P&P) SC, Instructor Managed (facilitated)**

(NOTE: You should **transition** to GNI based on something that is said in P&P. For example: "That's a great point and ties in well with our focus today"…followed by introducing the learning objective where you tell participants what they will be able to do when you finish.) Introduce the Lesson Objective at GNI.

TIME: **Generalize New Information (GNI)** ***Instructor Centered***

TIME: **Develop (Future Use) SC, Instructor Managed (*facilitated*)**

TIME: **Apply (example: practical exercises, exam, etc.)** ***Student Centered***

(Note: At the conclusion of the Apply you must provide feedback and then you should have some sort of closing or wrap-up of the lesson.)

3. Principles of Adult Learning
Support or satisfy them.
Don't violate them.
ADDITIONAL NOTES OR QUESTIONS:

Lesson 6

ACT-GTM

Action: Apply Critical Thinking (ACT) Tools and Groupthink Mitigation (GTM) Techniques
Conditions: Given experiential learning activities, readings, discussion, peer and facilitator feedback, reflection time, development time, and practicum.
Standards: The application will include:
ACT tools and GTM techniques
Cognitive Theory
Learning Domain - Level: None assigned
No JPME Learning
Areas Supported: None

Lipmanowicz, H., Singhal, A., McCandless, K., & Wang, H. (2015). Liberating structures: Engaging everyone to build a good life together. In H. Wang (Ed.), Communication and "the good life" (International Communication Association Theme Book Series, Vol. 2, pp. 233-246). New York: Peter Lang.

CHAPTER FOURTEEN

Liberating Structures

Engaging Everyone to Build a Good Life Together

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HUA WANG, UNIVERSITY AT BUFFALO,
THE STATE UNIVERSITY OF NEW YORK, USA

> "…The world is changed through small, elegant shifts in the protocols of how we meet, plan, conference, and relate to each other. The genius of this [Liberating Structures approach]…is how it puts in the hands of every leader and every citizen the facilitative power that was once reserved for the trained expert." Peter Block on liberating structures (Lipmanowicz & McCandless, 2014, back cover).

Have you been to classrooms with rows of tables and chairs neatly arranged, the students sitting there with their fingers glued to the smartphone while "the sage on the stage" is lecturing away—a lot of bodies that are present but minds that may be absent? Have you been to meetings where discussions are managed by the chair and the entire group spends the whole time listening to just one person talking—perhaps too much is said yet too little is accomplished? These are challenges that we, as communication professors, researchers, and practitioners, face routinely in our professional lives. In this chapter, we discuss the limitations of traditional group communication methods and present Liberating Structures as an alternative or complementary approach to unleash the potential of everyone, increase work efficiency and productivity, and build trusting and generative relationships—with emergent processes, liberating experiences, surprising outcomes, and meaningful connections—one way to build a good life together!

When it comes to the conduct of meetings, whether in classrooms or boardrooms, five methods are commonly used to organize how groups of people

work together: (1) the ubiquitous *presentation* with one person in control of the microphone—often the invited expert or the "shower and teller;" (2) the go-around *status report* with the microphone being passed from one person to another (i.e., turn-taking) with the purpose of briefing the boss or the bigger group; (3) the *managed discussion* with one person in charge of coordinating the conversation—often used for consensus-building or decision-making; (4) the *open discussion* with no one in charge but often in response to a presentation or a non-directed question; and (5) the free-flowing *brainstorming*, generating wild ideas through a Ping-Pong style conversation that is too loosely structured and that often misses multiple perspectives or the local know-how (Lipmanowicz & McCandless, 2014).

These five dominant methods of organizing group work severely limit what groups are able to accomplish. They direct the flow of expertise from the top, foster passive acceptance by restricting and controlling participation, and make exclusion a routine fixture of the classroom or any workplace. As a result, group work is deeply frustrating, marginalizing, and oppressive. This is one reason why most of us hate meetings, considering them as a waste of time, resources, and energy. How can classrooms and workplaces become places where people feel engaged? Here, we describe Liberating Structures that make it possible to include and engage all who are affected in shaping their next steps.

WHAT ARE LIBERATING STRUCTURES?

Liberating Structures are simple protocols that groups can use to organize how they work or learn together. Each protocol specifies five structural elements: (1) The *structuring invitation* such as a question to create a common focus; (2) *Space arrangement*, usually an open physical setting is required; (3) *Participation distribution* to ensure everyone has an equal chance to contribute, (4) *Groups' configuration* with different group sizes for different purposes, and (5) the *sequence of steps* and *time allocation* for effective execution. Currently, there are three dozen Liberating Structures available (http://liberatingstructures.com). They are simpler than a process and more serious than a fun exercise. They facilitate the minimum specifications for a group to make progress together without a predetermined outcome. They control the form or structure of micro-interactions in a way that liberates simultaneous mutual shaping of insights and next steps.

A flock of geese flying in a V-formation can illustrate what Liberating Structures make possible to enhance the performance of any group (see Figure 14.1). Whereas a single goose is exhausted after flying 500 miles, a flock of geese flying in a V-formation can fly from 800 to 1,000 miles without resting.

Figure 14.1. A flock of geese flying in a V-formation.

What makes this possible?

Simply, the geese flying in the back utilize the air currents coming from the wings of the geese in front to lift themselves (Papa, Singhal, & Papa, 2006). The geese rotate leadership at regular intervals. When the leader goose tires, it routinely drops behind in the formation as the geese at the back sequentially move forward. This means that if a goose moves out of formation, the increased drag on its wings provides instant feedback to self-correct its position. When in flight, the geese honk regularly and loudly to identify their respective positions and to encourage others to keep going, especially the leader. If a goose is wounded or unwell, two or three geese accompany it to the ground. Once nourished back to health, they will join another passing flock.

So a flock of flying geese maximizes both individual well-being and overall group performance. In the parlance of industrial engineering, a flock of flying geese represents a dynamic, interactive, and collaborative model of ergonomic design, a scientific discipline concerned with the understanding of interactions among actors and other elements of a system in order to optimize the performance of each individual and the overall system. At any given time, each goose has a specified role and responsibility, but across the spread of time, roles and responsibilities, including leadership, are constantly rotating. Effort, participation,

and contributions are distributed and balanced across time and distance. There is no wasted effort. All geese are engaged at all times, working in parallel toward a shared purpose. Feedback is plentiful, authentic, immediate, and affirmative. The geese are ever mindful of not just *who* they are, but *whos*e they are!

WHY IS WORK LIFE OFTEN "BAD LIFE"? HOW LIBERATING STRUCTURES CAN CREATE "GOOD LIFE"!

Akin to the rotating V-formation of a flock of flying geese, Liberating Structures specify how each participant's time, effort, and contribution are distributed in different spatial configurations so that everyone has an equal opportunity to participate, dialogue, and shape the group decisions and outcomes. However, the standard and dominant practice in a classroom or workplace is a far cry from what is embodied in a flock of flying geese, or embedded in the premise of Liberating Structures.

The designs of classrooms, boardrooms, and workspaces are deeply rooted in the ideology of the Industrial Revolution, emphasizing standardization, uniformity, and regularity. Participants, sitting in rows and columns, should behave in an orderly manner. Students and employees are looked upon as commodities to be processed, trained, programmed, and produced in an invariant manner. This widespread notion that students and employees are throughput and commodities needs to be challenged. Liberating Structures challenge the prevailing notion that a workplace cannot be engaging or enjoyable. In fact, when participants are engaged in a work place, productivity and group performance outcomes are significantly higher (see Figure 14.2).

Figure 14.2. Multiple small circles in Singhal's class in Tokyo, Japan in 2011.

If group performance can be significantly enhanced, and work be made more enjoyable, why hasn't it happened much? Here are some clues, based on our collective experience in educational, corporate, and non-profit settings:

First, routine work practices are so normalized that they are pretty much invisible. They are what everybody does. They are not diagnosed as a big source of problems or opportunity. They are not on anyone's radar screen. If you have never seen high engagement, how can you believe it even exists or is possible? If you are not convinced it exists, why would you bother looking for it or looking for a way to create it?

Second, improving the level of engagement in an organization is perceived as a big complex challenge. The dominant thinking is that it requires big complex programs, culture change campaigns, extensive leadership development, possibly reorganizations, or a new cadre of leaders. Small chicken-shit changes in routine practices are totally absent from the slate of solutions.

Third, we are all simply doing what we know how to do. We are doing mostly the same thing as the people above/before us are doing. In the hierarchical model within which we all grew up, people at the top are telling others what to do. They are expected to know all the right answers (experts) and to be competent at directing others (parenting, educating, inspiring, managing, leading). We all know that reality is different, but in the absence of something else, we continue to perpetuate the same organizational model for school, work, home, and church, etc. This model is not inclusive, it includes a lot of "shut up and listen."

Fourth, inertia is enormous for the very reason that the current standard practices are totally imbedded in the daily functioning of nearly all organizations, from top to bottom and across all functions. To appreciate the weight of inertia, it is enough to look at boardrooms where elongated tables occupy most of the space, sitting arrangements are cast in stone, and all meetings look the same, exact same structure, just different agenda items. That is the model that cascades down into organizations of all kinds.

Last but not least is fear of the consequences of doing something different. The existence of practices such as Liberating Structures is not widely known. The first book about them (Lipmanowicz & McCandless, 2014) was recently published. Liberating Structures usually are a visible departure from the prevailing habits, traditions, and culture. For new users, they can easily be a source of anxiety: Until others around me see their benefits, how will they react? What if "it" doesn't work? What will people think of me? What do I do if people get confused or refuse to participate?

Our experience suggests that Liberating Structures not only ensure that people who are more positive and creative will get the space they need to contribute but they also invite the better side of all participants to show up. When people experience new patterns of interactions and see the results, it invites them

to experiment with new practices. When their voices are heard, participants feel valued, and are motivated to do more. In short, Liberating Structures create the conditions for a healthier ecosystem to emerge.

THE CONCEPTUAL BASIS OF LIBERATING STRUCTURES

The conceptual basis of Liberating Structures can be traced back to the teachings of the noted Greek philosopher Socrates over two thousand years ago and more recently to noted 20th century educational practitioners and scholars such as Dewey (1987/1938), Bruner (1960, 1973, 1996), Piaget (2001/1947), and Montessori (1986). All of them, in their own way, critiqued the industrial model of public education that privileged expert knowledge and overly emphasized delivery of content rather than paying attention to process, experience, and self-discovery (Kolb, 1984). They all deeply valued hands-on, experiential discovery, emphasizing the importance of interactions, dialogue, and collaboration in the learning process. Principally, they argued for curriculum to be organized in an upwardly spiraling manner so that the student continually builds upon what they have already learned (Darling-Hammond, 2013; Davis, 2013). They emphasized effective sequences in which to present material so that the learning emerged from the students' own curiosity-fueled engagement, not from invariant transmission of expert knowledge.

Despite the valorizing of principles espoused by Dewey, Bruner, Piaget, Montessori, and others, our educational institutions treat students as empty vessels to be filled with the expert knowledge (Freire, 1971/1968). In workplaces, usually it is the superiors who speak and direct; subordinates listen and comply. Unwittingly, conventional structures stifle inclusion and engagement. Meetings and group work lead to disengaged participants, dysfunctional groups, and wasted ideas. Liberating Structures allow participants to recover their voices and agency and help them *discover and* believe they have something worth saying.

TRANSFORMING CLASSROOMS AND LEARNING EXPERIENCES

A small example illustrates concretely what happens when someone uses a Liberating Structure. Anu is a teaching assistant giving a course in public speaking to a group of some 30 undergraduate students at a medium-sized Southwestern university. After all students had their first public speaking experience she wants to do a quick debrief, have the students reflect on what they learned and, looking back, what they would do differently. A standard practice, the one that has been in use for centuries, would be for the teacher to throw the question at the whole class.

A few students would raise their hands. She would pick three, four, or perhaps five students to share their thoughts, and then she would share her own observations and recommendations. All other students would be left with no choice but to listen passively. Most students would have likely zoned out.

Anu instead decided to use a Liberating Structure called Impromptu Networking (http://www.liberatingstructures.com/2-impromptu-networking/). She first asked each student in class to stand up. Then she told them that she wanted them to pair up preferably with someone they didn't know well and that they had 30 seconds each to answer the following question, "Looking back at your first public speaking experience what would you do differently?" She told the students that after the first round she would ring a bell and they would have to pair up with another student for another 30 seconds while addressing the same question. And then there would be a third round. Then she rang her bell and said, "Go, first round!" The whole room erupted in spontaneous combustion. All students were immediately engaged first sharing their idea and then listening to their partner.

The energy in the room was palpable. Positive body language was everywhere: students leaning in, smiling, and listening. Three times meant three opportunities to reflect more deeply and learn from peers. At the end of the three minutes, while students were still standing up, Anu asked, "Who would like to share something you heard from a partner that you thought was particularly valuable?" She let the sharing go till it ended on its own; all the learning from the whole class was captured effortlessly and quickly within a couple of minutes. Importantly, what Anu did with 30 students could have been done with 60 or 300 students within more or less the same amount of time. Liberating Structures scale very easily.

This small example illustrates how and why it is possible to be more effective and productive as a group and, at the same time, make it also enjoyable for all participants. It is enjoyable because everybody is actively engaged from start to finish. It feels good because everybody is given equal space to speak and be heard. It is fun because it is dynamic and energizing. It is rewarding because it gives everybody the opportunity to contribute to the whole learning process. It generates lots of interactions between people who otherwise would remain distant in spite of sitting in the same room. These multiple interactions build connections and, gradually, trust between people thus fostering a sense of community, something to look forward to spending time with. Allowing the entire variety of contributions to emerge from the group enriches the conversations while leveling the playing field. The teacher becomes more of a facilitator, a partner in discovering solutions, a co-conspirator in how to have a good time while working together.

Ask any student of Anu's class whether they enjoyed their Impromptu interactions and you will find out why her class is a favorite of theirs, one that they hate to miss. You will also understand why Anu received the university-wide outstanding teaching assistant award for the 2013–2014 academic year. One important

twist: Anu had never taken a course in public speaking or practiced public speaking. She didn't teach from a position of expertise. Instead she created the conditions and facilitated the learning of the students by getting them all engaged with Liberating Structures.

While Impromptu Networking is one of the simpler Liberating Structures, it is illustrative of the whole set. A small, discrete example like Impromptu Networking makes it easy to see the differences between a standard instructional practice in a classroom and a Liberating Structure. Those differences remain the same at a larger scale, in more complex situations, and when using multiple Liberating Structures. The differences scale because these engagement outcomes are automatic "side-effects" of the way all Liberating Structures are constructed: get everybody engaged from start to finish, give everybody equal space to be heard and contribute and practice self-discovery. Just as low participation is built into the fabric of standard work practices, high engagement is built into the fabric of Liberating Structures. Table 14.1 lists some of the other commonly-used liberating structures in classrooms.

Table 14.1. Commonly Used Liberating Structures in Classrooms.

Brief Description	Icon	Example of Classroom Use
1-2-4-All Engage everyone simultaneously in generating questions, ideas, and suggestions.		Invite participants to generate the most vexing questions that they are struggling with, including prioritizing the ones the class should collectively tackle.
Conversation Café Engage everyone in making sense of profound challenges.		Invite participants to discuss how to tackle their most challenging questions by expanding and deepening the solution space.
User Experience Fishbowl Share know-how gained from experience with a larger community.		Invite groups to share their unique field experiences, insights, and struggles with the whole class.
Troika Consulting Get practical and imaginative help from two colleagues immediately.		Obtain help on an individual project, assignment, or task from peers, and in turn serve as a consultant to address their challenges.
25-10 Crowd Sourcing Rapidly generate and sift a group's most powerful and actionable ideas.		Invite participants to rapidly generate the most concrete scenarios to go from knowledge-to-action.

What, So What, Now What? **W³** Debrief together, look back on progress to date and decide actionable next steps.		Analyze a case study in class by step-wise, beginning with a discussion of (1) *what* happened (i.e. establish the facts), (2) *so what* (i.e. discuss inferences and conclusions), and (3) now what (i.e. chart implications for applying the findings). Or, simply, use to track class progress with respect to a particular topic.

Note: More description of each of these liberating structures, including how and when to use, can be found in (Lipmanowicz & McCandless, 2014) and at www.liberatingstructures.com.

Two of the present co-authors, Singhal and Wang, have under the guidance and mentoring of the other co-authors, Lipmanowicz and McCandless, been employing the practice of Liberating Structures to liberate their classrooms—whether in El Paso or Buffalo, or in other parts of the world. Here co-author Singhal, in first person, shares how he makes small adjustments in the protocols of how his classroom is structured and conducted (for more, see Singhal, 2014).

> In my classes, participants invariably find themselves in circles (see Figure 14.2). There is no "sage on stage," and all participants have equal opportunity to be seen and heard. To deepen classroom conversations, I often introduce a "talking stick" when doing small-group work. Whoever holds the stick talks, the others listen. The stick is then passed until all have spoken. The stick may go around three to four times so that participants have an opportunity to widen and deepen their own thoughts and to build upon others' thoughts. Trust rises as relationships deepen over time.

INVITING EVERYONE TO SAVE LIVES

Liberating takes courage. The first wave of mutually shaped insights, decisions, actions, and agreements may seem inconspicuous, crude, or fleeting. They often come from overlooked details, unusual suspects, and need to be coaxed out of messy or ambiguous situations. It is much easier to see big system failures (and then propose standardized outcomes) than to notice how widely distributed local solutions make a difference. System problems shout, widely distributed solutions whisper.

For decades, a standardized approach to preventing the spread of antibiotic resistance organisms (aka superbugs) was delivering modest to poor results. Scientific evidence supported three effective prevention strategies: hand washing, cleaning surfaces, and isolating patients with infections. Standardized policies and

procedures regarding *what to do* were developed and handed down from technical experts to the staff interacting with patients and families every day.

With these outcomes predetermined, training to reduce variation in *what to do* was handed down the chain of command. The goal was to tightly manage execution—rewarding adherence and punishing non-compliance. If results were poor, managers and technical experts employed more training, more rewards, and more punishments. If performance still did not improve, more forceful edicts and still more technical *what to do* education was repeated ad infinitum. An unproductive self-reinforcing pattern of over-control or over-helping from and dependency from the front line can take hold.

In contrast, an action research project using Liberating Structures such as Improv Prototyping made it possible for the managers and experts to include the people closest to the challenge in shaping *how to* prevent the spread of infections together (Singhal, Buscell, & Lindberg, 2014; Singhal, McCandless, Buscell, & Lindberg, 2009). For the first time, unusual suspects like cleaners, aides, doctors, patients, and family members were asked: How they knew the risk of transmission was present; what they did to prevent transmission (e.g., how they washed their hands before and after every exposure to patients or unprotected surfaces); what made it difficult to take precautions all the time, and what more they could do to improve or invent new solutions.

Answers, ideas, and small solutions poured out. Many people were astonished that they were being asked. Rarely if ever had they been invited to shape next steps. Being told what to do was far more familiar. New connections within and across functions started to generate results. With more freedom, people were taking more responsibility for solving the problem and working in partnership across barriers.

Paradoxically, the scientific evidence or evidenced-based-medicine about *what to do* was present but the *how to* generate local practice-based-evidence was sorely neglected. The traditions of waiting for direction from the top, power differences among staff, and diverse functional roles created barriers to generating solutions. However, social skills required to work productively with these challenges were acquired rapidly through use of Liberating Structures.

At the start, it was messy and ambiguous. Managers and experts did not know how to ask for help. The cleaners, aides, and patients were not sure their contributions would be valued. Differences in power, social background, and perspectives were enormous. As local action was undertaken, social proof that the approach was working spread quickly. If one unit was able to see their ideas enacted and they reduced transmissions, their more liberated partnership quickly spread to other units. A big problem was being solved and a new way of solving problems together was discovered. Does "the good life" get any better than that?!

IN CONCLUSION

Through our collective work over the past decade or so, more than thirty Liberating Structures are documented. They are precisely described from their particular range of purposes to the details of how to use them. Liberating Structures can be used singly in routine situations. For more sizeable projects or ambitious goals, they can be combined into an infinite range of combinations or strings.

Our experience also suggests that the use of Liberating Structures doesn't demand any exceptional qualities or leadership talents. The structures are so simple that anybody at any level can do it. They don't require extensive training. Liberating Structures don't ask of leaders to develop new and complex competencies. They ask of people to do something that they can do, namely to modify in small ways the practices they use routinely when working together. See Table 14.2 for the ten principles of Liberating Structures.

Table 14.2. Ten Principles of Liberating Structures.

When Liberating Structures are part of everyday interactions, it is possible to:	Liberating Structures make it possible to: START or AMPLIFY these practices that address opportunities and challenges with much more input and support:	Liberating Structures make it possible to: STOP or REDUCE these "autopilot" practices that are encouraged by conventional microstructures:
1. Include and Unleash Everyone	Invite everyone touched by a challenge to share possible solutions or invent new approaches together. Actively reach across silos and levels, beyond the usual suspects.	Separate deciders from doers. Appoint a few to design an "elegant solution" and then tell all others to implement it after the fact. Force buy-in. Confront resistance with hours of PowerPoint presentations.
2. Practice Deep Respect for People and Local Solutions	Engage the people *doing the work* and familiar with the local context. Trust and unleash their collective expertise and inventiveness to solve complex challenges. Let go of the compulsion to control.	Import *best practices*, drive *buy-in*, or assume people need more training. Value experts and computer systems over local people and know-how.

3. Never Start Without a Clear Purpose	Dig deep for what is important and meaningful to you and to others. Use *Nine Whys* routinely. Take time to include everyone in crafting an unambiguous statement of the deepest need for your work.	Maintain ambiguity by using jargon. Substitute a safe short-term goal or cautious means-to-an-end statement for a deep need or a bold reason to exist. Impose your purpose on others.
4. Build Trust as You Go	Cultivate a trusting group climate where speaking the truth is valued and shared ownership is the goal. Sift ideas and make decisions using input from everyone. Practice "nothing about me without me." Be a leader and a follower.	Over-help or overcontrol the work of others. Respond to ideas from others with cynicism, ridicule, criticism, or punishment. Praise and then just pretend to follow the ideas of others.
5. Learn by Failing Forward	Debrief every step. Make it safe to speak up. Discover positive variation. Include and unleash everyone as you innovate, including clients, customers, and suppliers. Take risks safely.	Focus on doing and deciding. Avoid difficult conversations and gloss over failures. Punish risk-takers when unknowable surprises pop up.
6. Practice Self-Discovery Within a Group	Engage groups to the maximum degree in discovering solutions on their own. Increase diversity to spur creativity, broaden potential solutions, and enrich peer-to-peer learning. Encourage experiments on multiple tracks.	Impose solutions from the top. Let experts "educate" and tell people what to do. Assume that people resist change no matter what. Substitute laminated signs for conversation. Exclude frontline people from innovating and problem solving.
7. Amplify Freedom AND Responsibility	Specify minimum constraints and let go of overcontrol. Use the power of invitation. Value fast experiments over playing it safe. Track progress rigorously and feed back results to all. Expose and celebrate mistakes as sources of progress.	Allow people to work without structure, such as a clear purpose or minimum specifications. Let rules and procedures stifle initiative. Ignore the value of people's understanding how their work affects one another. Keep frontline staff in the dark about performance data.

8. Emphasize Possibilities: Believe Before You See	Expose what is working well. Focus on what can be accomplished now with the imagination and materials at hand. Take the next steps that lead to creativity and renewal.	Focus on what's wrong. Wait for all the barriers to come down or for ideal conditions to emerge. Work on changing *the whole system* all at once.
9. Invite Creative Destruction to Enable Innovation	Convene conversations about what is keeping people from working on the essence of their work. Remove the barriers even when it feels like heresy. Make it easy for people to deal with their fears.	Avoid or delay stopping the behaviors, practices, and policies that are revealed as barriers. Assume obstacles don't matter or can't be removed.
10. Engage in Seriously Playful Curiosity	Stir things up—with levity, paradoxical questions, and improv—to spark a deep exploration of current practices and latent innovations. Make working together both demanding and inviting.	Keep it simple by deciding in advance what the solutions should be. Control all conversations. Ask only closed *yes* or *no* questions. Make working together feel like drudgery.

In the process of developing Liberating Structures and exposing students and employees in many different countries and environments, we have come to the conclusion that: You can't get to a "good life" if you don't know *how to* do it. So here is our proposition: Use routinely a collection of simple methods called Liberating Structures and your chances for a "good life" for you and those around you, at school and at work, will be dramatically increased.

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ADDITIONAL RESOURCES FOR LIBERATING STRUCTURES

Liberating classrooms: Henri Lipmanowicz in conversation with Dr. Arvind Singhal. [Video file]. Retrieved from https://vimeo.com/50347352 (8' 20")

Liberating structures: Including and unleashing ALL: Henri Lipmanowicz in conversation with Dr. Arvind Singhal. [Video file]. Retrieved from https://vimeo.com/50352840 (8'30")

Liberating structures: Simple, subtle, powerful. [Video file]. Retrieved from http://clintonschoolspeakers.com/content/liberating-structures-simple-subtle-powerful

Nine liberating structures in 42 minutes with Henri Lipmanowicz and Dr. Arvind Singhal. [Video file]. Retrieved from http://vimeo.com/60843778

Unscripted: Liberating structures by Dr. Arvind Singhal. [Video file]. Retrieved from https://vimeo.com/51546509 (10'20")

CHAPTER IV: Critical Thinking

> *In all affairs it's a healthy thing now and then to hang a question mark on the things you have long taken for granted.*
>
> *Many people would sooner die than think. In fact, they do.*
>
> **-- Bertrand Russell**[1]

Introduction

Critical thinking is a term that many institutions hold in high regard, that most people have heard about, and that almost nobody practices on a thorough and systematic basis. This section of the Red Team Handbook is designed to acquaint you with many of the fine points associated with critical thinking by doing two things: exploring what critical thinking is, and addressing why critical thinking is necessary.

Critical thinking is hard, deliberative work and it takes an open, inquisitive mind. It is not easy, but it doesn't take a genius either. You can choose to believe whatever you hear and see. But to be a critical thinker, you must learn to ask yourself whether you *must* believe what you hear and see. *Ultimately, critical thinking is about what to believe.*

What Do Critical Thinkers Do?

What exactly is critical thinking? A common approach to answer that question is to consider how the term is defined. Let's look at a few definitions of critical thinking. Drs. Richard Paul and Linda Elder, authors of many critical thinking books and documents, define critical thinking as

> "A process by which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them… [It requires] a commitment to overcome our native egocentrism and sociocentrism."[2]

Robert Ennis, also recognized as an expert in critical thinking, defines it differently: "Critical thinking is a process, the goal of which is to make reasonable decisions about what to believe and what to do."[3]

Are either of those definitions sufficient to explain what critical thinking *is* in full, or what critical thinkers do? Certainly not.

Neither enumerate *what* critical thinking is, nor point us in the right direction in terms of *how* to think critically. The challenge of defining critical thinking is that it seems to defy definition—at least a definition that stands alone, fully explaining what it is and how to do it. In fact, several authors who have written about critical thinking do so without attempting to define the term. Among them are Stephen Gerras ("Thinking Critical About Critical Thinking"), Stephen Brookfield (*Developing Critical Thinkers*), Tim Hurson (*Think Better*), and Peter Facione (*Critical Thinking: What It Is and Why It Counts*).

Although the definitions leave us with questions concerning what critical thinking is and how to do it, they do provide insight. By closely reviewing several definitions, we can ferret out ideas that help us better understand the nature of the critical thinking.

Look at the definition by Drs. Paul and Elder above. Several tangible ideas emerge: critical thinking is a *process*, and it deals with the *quality of thinking* by *imposing intellectual standards*. In fact, in other writing these two authors assert that critical thinking *considers points of view*, *the quality of information*, *interpretation and inference*, *assumptions*, and *implications* and *consequences*, and that critical thinkers *think open-mindedly,* and *gather, assess* and *interpret relevant information*.[4]

Additional verbiage from other critical thinking experts, with their key ideas italicized, are as follows:

- Stephen Brookfield (*Developing Critical Thinkers*): Critical thinking consists of *challenging assumptions* and *exploring alternatives*.[5]
- M. Neil Browne and Stuart M. Keeley (*Asking The Right Questions*): "Critical thinking consists of an *awareness* of a set of interrelated critical questions, plus the ability and willingness to ask and answer them at appropriate times" (Italics added.)[6]
- Gary Jason (*Critical Thinking*): "Broadly defined, critical thinking means *developing an ever better worldview* and using it well in all aspects of your life… the essence of critical thinking is *questioning* and *arguing logically*. … the heart of critical thinking is the ability to … infer or reason well… questioning and arguing logically" (Italics added).[7]

- Sylvan Barnet and Hugo Bedau (*Critical Thinking, Reading, and Writing*): "[Critical thinking includes] *searching for hidden assumptions*, noticing various facets, unraveling different strands, and evaluating what is most significant … [critical thinking] implies conscious, deliberate inquiry, and especially it implies *adopting a skeptical state of mind*." "Critical thinkers are…sufficiently *open-minded*… [and] adopt a *skeptical* attitude." "Critical thinking means questioning not only the assumptions of others, but also *questioning your own assumptions*" (Italics added.)[8]

Make a short list of all of the italicized words in the definitions shown thus far. Collectively, these words help illuminate what critical thinking *is*, and what critical thinkers *do*. Here is an initial list of the ideas expressed in italics:

- Critical thinking is:
  - *awareness.*
  - a *process*
  - *quality of thinking*
  - *imposing intellectual standards*
  - *challenging assumptions* and *exploring alternatives*
  - *searching for hidden assumptions*
  - *questioning* and *arguing logically*
  - *developing an ever better worldview*
- Critical thinkers:
  - *are open-minded*
  - *adopt a skeptical state of mind*
  - *gather, assess*, and *interpret relevant information*
  - *question [their] own assumptions*
  - *consider points of view*, *the quality of information*, *interpretation and inference*, *assumptions*, and *implications* and *consequences*

Let's elaborate on a few of the ideas expressed above. First, critical thinking is *awareness*: critical thinkers are aware of their

surroundings, what they do know and (more importantly) what they do not know, and how their thinking can often fool them. Because of this, critical thinkers are self-reflective and defer judgment: they do not jump to conclusions, but rather take time to ask questions, ensure they've considered various perspectives, ask themselves what's missing that needs to be considered, and reflect upon how their values and beliefs may be conspiring to fool them.

Critical thinking is also a *process*. Good critical thinkers consider various frameworks when thinking about problems, because frameworks force us to consider alternative perspectives that we wouldn't naturally consider. The latter portion of the Red Team Handbook is filled with frameworks with which we can think critically about various challenges.

Critical thinking includes knowing that for many issues, assumptions prevail. Often these assumptions are hidden, or *implicit*: we make them without realizing that we are doing so. *All* assumptions need to be challenged. When the assumptions are challenged and found to be faulty, we may have better insight into the nature of the problem.

Exploring alternatives is equally important. Otherwise, we take for granted that the first thing that comes to our mind is the way it really is—we fall prey to default-mode thinking, allowing ourselves to be comfortable with the first conclusion we settle upon.

Considering the collective list of extracted ideas from critical thinking experts is a first step toward more fully appreciating what critical thinking is, and how to do it. To add to the list above, think of someone you admire as a critical thinker. What is it that s/he does that you admire? How is it that this person "thinks critically?" What habits of thought does this person exhibit? There is no perfect, all-inclusive list of critical thinking traits. But by constructing such a list, we can better understand the aspects of critical thinking that definitions alone won't provide.

In summary, critical thinking definitions—however eloquently stated—often do not provide complete, self-contained understanding because there is much more to critical thinking than any one definition can provide. Rather than focus on definitions of critical thinking, we invite you to review the list of *Critical Thinking Traits*. Review each item on this list. If you aren't doing all of the

things noted on the list, perhaps your critical thinking has room for improvement. Make sure to explore those ideas that you don't understand.

This completes the discussion of what critical thinking is, and what critical thinkers do. But is critical thinking a necessity?

Why is Critical Thinking Necessary?

We maintain that critical thinking is indeed vitally necessary. Why? For a number of reasons—among them the fact that we spend most of our waking day on "cognitive autopilot," not consciously thinking about the choices that we make; that each of us perceives and interprets the same information in several different ways; and that there are ingenious attempts on the part of the few to fool the many. This section will briefly examine these reasons.

Most human beings are on "cognitive autopilot" most of the time. Think about it: since you woke up this morning, how much of your daily routine has been just that—a routine? Unless you're a child, and haven't yet learned all of the things necessary to survive and thrive in the modern world, we don't usually give a second thought to many of the things we do during the day. This includes dangerous activities—driving a car on a busy highway; playing ice hockey; working in a noisy, dangerous automotive plant; or crossing a busy street while listening to music on an iPod.

According to Daniel Kahneman, most impressions and thoughts arise in your conscious experience without your knowing how they got there. The mental work that produces impressions, intuitions, and many decisions *goes on in silence in our mind*. As we navigate our lives, we normally allow ourselves to be guided by impressions and feelings, and the confidence we have in our intuitive beliefs and preferences is usually justified.

But not always.[9]

According to Richards Heuer (*The Psychology of Intelligence Analysis*) and Morgan D. Jones (*The Thinker's Toolkit*), we do not approach analysis with empty minds. Our minds are full of biases and assumptions. Unless we are forced to stop and think through a particular challenge, we are able to blot out much of the complexity surrounding us and rely on routines of habit. Usually, this works fine until we treat a truly unique situation as yet another

routine situation, at which point we are taken by complete surprise. Hopefully we survive and learn. Sometimes we're profoundly embarrassed.

Critical thinking helps us break the bond of unreflective dependence upon our intuition. It is a counter-weight to "cognitive autopilot." Why? For several reasons, among them our reliance upon mental models, patterns and intuition; the effects of "frames"; and our values, beliefs and worldviews.

When we perceive and interpret information, we usually use mental models, patterns, and anomalies: our intuition. Mental models—also referred to as "mindsets"—are tools that we unknowingly create to replicate how we believe the world actually works. They act as *implicit* assumptions—unstated, hidden assumptions we don't consciously make, but which nonetheless exist. We use these mental models to simplify our daily lives. Mental models allow us to cope with reality by providing a ready-made default mechanism: "when I see the following, here's how I interpret it and here's how I act." Most of these mental models, like our values and beliefs, reside in our subconscious, which means that we are not normally cognizant when we are using them. Mental models do make our lives easier; they simplify the environment by bringing to each new experience a pre-established frame of reference. The absence of mental models would require us to figure out every situation as it presents itself, and we would soon be overwhelmed.

When our mental models of the world do not match the reality that we face, we often ignore that reality. Unfortunately, we often try to project our own mental models onto situations, whether or not they actually fit. We tend to perceive what we expect to perceive in the world around us, valuing information that is consistent with our views, and rejecting or overlooking information that is inconsistent with our views. And we perceive in a way that is least likely to disturb what we expect to see—least likely to disturb the mindsets buried in our subconscious.[10]

Related to mental models are sets of patterns that we establish throughout our experiences in life. The longer we live, the more experiences we gather and the more we are able to operate autonomously through the use of these patterns. Sometimes when a particular pattern that we expect doesn't present itself—when we spot an anomaly—we are able to act upon that information too.

Many times, however, spotting anomalies is difficult, especially if we are not looking for them in advance.

When we view the world around us in terms of patterns, however, we get into trouble when those patterns don't actually exist. This is a description of a "cognitive bias" called the Narrative Fallacy.

We can also fall into a trap of allowing our minds to jump to conclusions—having been deceived by the faulty use of mental models or patterns—and form a conclusion to a particular problem without first considering alternatives, simply because that's what our mental models or overreliance on patterns tells us is the truth. This is an example of what we call Confirmation Bias, which is another of the *Cognitive Biases*. In order to preclude Confirmation Bias, we should not seek to confirm anything. Rather, we should seek to *disconfirm*, or disprove an idea, especially if that idea comes in the form of an assumption. An ideal tool that uses the principle of disconfirming evidence is the *Analysis of Competing Hypotheses*.

A concept closely related to mental models is frames, which according to Edward Russo and Paul Schoemaker are "mental structures that simplify and guide our understanding of a complex reality."[11] Frames are hard to recognize, and distort what we see. Most of us don't realize that we have various frames and mental models. We often use frames to consider problems or situations, but fail to realize that we should use several frames instead of just one. Rather, we normally use the first frame that occurs to us. Challenging our frames is a necessity, but we can't challenge our frames if we don't realize that they exist. A useful tool in working with frames is the *Frame Audit*.

Our values, beliefs and worldview act as filters to skew our perception and interpretation of information, and they motivate our subsequent behavior. Most of our values and beliefs reside in our subconscious; we know we have them, and when forced to think about them we can generally describe what they are. Values and beliefs are both forms of assumptions about how the world works, and our worldview could be considered as a compilation of these beliefs and values.

Since each of us (even within the same culture) are apt to have subtle differences in our values, beliefs and worldview, it should be easy to understand that each of us is apt to perceive and

interpret information differently from each another. Of course, when we work with people from other cultures, the differences are apt to be much more significant. Critical thinking helps us to think about each other's' perspectives.

One way to think critically about issues in which our values, beliefs and worldview may have affected us is to adopt the role of a Devil's Advocate. *Devil's Advocacy* is a process which forces us to think through an issue from a completely different perspective, one which we wouldn't normally consider. *Each of us perceive and interpret information differently—for several reasons.* Among these reasons are the physical limitations of our perceptive processes; our inability to reason properly; our inability to differentiate between causation and correlation; and our difficulty in "thinking complexly" about complex problems.

We are limited in terms of what we can physically perceive. Hence, each of us is apt to see different elements of the same information. When we observe something, we often miss many things. According to Dr. Marcus Raichle, a neurologist at Washington University, each of us has ten *billion* bits of information hitting the backs of our retinas every second—of this, only six *million* bits make it to our optic nerve, and 100,000 bits make it to our visual cortex. Yet only *100* bits of information make it to our conscious brain each second. That is a significant physical filtering of information—from 10^{10} power to 10^{2} power. Even if Dr. Raichle's numbers are a bit off, the effect should be readily apparent. We simply do not have the capability to register and think about everything we can perceive. When several of us look at the same thing, we often notice different aspects of it. Why? Our mental models, the patterns we've experienced, our frames, our values and beliefs, and our worldview. This is why diversity among groups is important: each of us is apt to be able to think about key aspects and perspectives that others in our group are not, and vice versa.

Our vision is a *construction*. The process of observing includes recreating in our minds—constructing—what we believe we are observing. When we observe, our brains take in information, and relate that information to the surrounding context. Given all of the information that is physically filtered out, we are inclined to fill in the gaps by making assumptions in a way that makes sense to us: we assign meaning to what we perceive, because we are

generally uncomfortable with a completely abstract picture devoid of meaning. The more abstract a perception, the more our brains will add meaning to it. (If you don't believe that, assemble a group of people and view the most abstract art you can find. Many will perceive and interpret the art piece in demonstrably different ways, in part because of the physical limitations described above, and in part due to the mental models, patterns, frames, and beliefs and worldview described above.) The completed "picture" that we see is not necessarily the reality in front of us; rather, it is the constructed version of that reality that reflects assumption-based conclusions to which our brains have already jumped. Again—this is why diversity of experience is crucial to groups conducting critical thinking.

Often our reasoning is faulty. We reason in one of a couple of ways—deductively or inductively. Deductive reasoning relies upon drawing a conclusion from two or more premises. So long as the premises are facts—the truth—then our conclusion is certain to be true. Deductive reasoning tends to be faulty, however, when one or more of our premises are not in fact true, but rather are unrealized assumptions that we have overlooked. In order to ensure that we deduce properly, it pays to think critically and ask whether each and every premise upon which we base our conclusion is factual information, and not a *presumed* fact—an assumption.

Inductive reasoning is different. When using inductive reasoning, we infer a conclusion that, at best, is probable (vice certain). The probability of the conclusion's truth varies directly with the degree of likelihood that its premises are true. Inductive reasoning occurs in a number of different ways: reasoning from a sample to a larger population; reasoning from a population to a sample; accepting a conclusion based on what people report observing; inferring "why" something happened; and reasoning from one sample to another, or analogizing (*Determining the Suitability of an Analogy*). In all cases, the first requirement of a critical thinker is to realize that he is resorting to inductive reasoning, and as such acknowledge that his inferences and conclusions are at best probabilities. Following that, a critical thinker must ascertain the degree of probability to his conclusion in order to avoid surprise.

In thinking critically about either deductive or inductive reasoning, a valuable tool to consider using is the *5 Why's*, which helps us by revealing unsound logic in our thinking.

We fail to differentiate between causation and correlation. Distinguishing between cause and correlation is an important function of critical thinking. Most of us are unaware that the two concepts exist, and tend to fall into a trap of connecting two events in a linear cause-and-effect relationship. We often fail to understand that linear chains of cause-and-effect are rarely the reality. Instead, what we perceive as a cause-and-effect relationship is in fact a correlative one. For example, during an insurgency we might infer that heaps of trash in the city are causing increased levels of violence among the insurgents. Based upon that linear cause-and-effect analysis, removing the trash should eliminate the insurgent violence. Closer examination, however, might dispel that hypothesis. Although both appear to happen with some relatively predictable levels, there is most likely a correlation between the two—that removal of the trash might help reduce the level of insurgent activity, but not completely eliminate it.

A critical thinker asks himself, therefore, the following question: is there a cause-and-effect relationship at work here, or are the two actions I observe in some correlative relationship? If so, what is the nature of that correlative relationship? Once a critical thinker develops that hypothesis, s/he should test and amend it as necessary, based upon feedback. (Note: an even more troubling question a critical thinker should ask is whether s/he is inferring (or imagining) a relationship that doesn't exist at all. This question is related to the Narrative Fallacy, one of the *Cognitive Biases*, as well as to a famous Logical Fallacies and Biases entitled *The False Cause*.

We fail to appreciate the complexity in systems, and instead resort to "linear" cause-and-effect thinking. Life around us is incredibly complex, yet we tend to think in linear cause-and-effect relationships, according to Dietrich Doerner (*The Logic of Failure*) and Peter Senge (*The Fifth Discipline*). Most of us attempt to act upon a simple, single variable which creates unintended, cascading effects. Instead, we should consciously account for the interrelated variables in a particular scenario by creating and testing a hypothesis of what we believe the complex system consists of. We

then should assess the feedback of our actions, amending our initial hypothesis until we have confidently figured out the system with which we're working. Several tools help when working with complexity: *Premortem Analysis*, *Shifting the Burden*), and *S-W-O-T Analysis*.

Finally, we need to think critically because a lot of people are constantly trying to trick us. Beyond all of the reasons cited above for why critical thinking is necessary, there is also the fact that many people are simply trying to fool us. Unfortunately, for the most part they succeed—because most of us don't think critically enough, or recognize many of the tricks that these folks use. Examples of these rhetorical tricks such as Appeal to the Masses, Appeal to Fear, Ad Hominum, False Dichotomy, and the Slippery Slope, are all *Logical Fallacies and Biases*. Critical thinkers are knowledgeable of these common logic fallacies and use logic to deconstruct arguments based upon them.

For all of the reasons cited above, critical thinking is a necessity. One of the most robust tools for thinking critically about written and oral argumentation is the *Argument Deconstruction*.

Summary

That is critical thinking. As you can see, it is pretty involved—deliberative, hard work. To do it properly, you have to know a great deal—about how we perceive and interpret information differently from others, how our thinking can be affected by a number of things like mental models and values and beliefs, and how others are constantly trying to fool us. But with some diligence and hard work, critical thinking can become a valuable habit. We need to practice it thoroughly and systematically at all times.

Remember: critical thinking is about what to believe. We *can* believe most anything.

But *must* we?

The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking

results which are as precise as the subject and circumstances of inquiry permit.[12]

Endnotes

[1] "Quotations by Author." Bertrand Russell Quotes. January 1, 2013. Accessed November 24, 2014. http://www.quotationspage.com/quotes/Bertrand_Russell/.

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[4] Paul and Elder, *The Miniature Guide to Critical Thinking*, 5.

[5] Brookfield, Stephen. *Developing Critical Thinkers: Challenging Adults to Explore Alternative Ways of Thinking and Acting*. San Francisco, Calif.: Jossey-Bass, 1987.

[6] M. Neil Browne, M. Neil and Stuart M. Keeley, *Asking the Right Questions: A Guide to Critical Thinking,* 8th ed., (Upper Saddle River, N.J.: Pearson Prentice Hall, 2007), 3.

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[8] Sylvan Barnet and Hugo Bedau, *Critical Thinking, Reading, and Writing: A Brief Guide to Argument,* 7th ed., (Boston, MA: Bedford/St. Martins, 2011), 3-5.

[9] Daniel Kahneman, T*hinking, Fast and Slow,* (New York: Farrar, Straus and Giroux, 2011), 4.

[10] The section above refers to ideas found in Richards Heuer's book, *The Psychology of Intelligence Analysis,* and Morgan D. Jones' book, *The Thinker's Toolkit.*

[11] J. Edward Russo and Paul J. H. Schoemaker, *Winning Decisions: Getting It Right the First Time*, (New York: Currency, 2002), 21.

[12] Peter A. Facione, *Critical Thinking: What It Is and Why It Counts: A Resource paper* (Millbrae, CA: California Academic Press, 1998), 3.

CHAPTER V: Groupthink Mitigation & Decision Support

The penultimate purpose of red teaming and applying critical thinking techniques is to support the organization in reaching good decisions while avoiding the lure of groupthink. This sounds very simple but as Clausewitz reminded us, "Everything in war is very simple, but the simplest thing is difficult."[1] This section covers identifying groupthink and recommendations for groupthink mitigation, how red teaming fits into the Army Design Methodology, and the Red Team's role in the MDMP process.

Groupthink

Groupthink is one of a number of terms that we use without truly realizing what it is, why it occurs, and how we can mitigate it. Group norms—and the social pressures to conform to them—are in tension with the need for a staff to consider alternatives during decision-making.[2]

Irving Janis has defined groupthink as: "a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action." And, "Groupthink refers to a deterioration of mental efficiency, reality testing, and moral judgment that results from in-group pressures."

Janis outlined seven defects in decision-making attributed to groupthink. We list them below for reference. During the conduct of the military decision making process watch for the indicators of these defects and apply red teaming methods and techniques to overcome them.

- Discussion limited to merely two or a few alternative courses of action (often only two)
- No survey of objectives to be fulfilled and the values implicated by the choice
- Failure to reexamine the selected COA from the standpoint of non-obvious risk and drawbacks not considered during the original evaluation
- Neglect COAs initially evaluated as unsatisfactory

- Little or no attempt to gain information from experts on other COAs
- Interest only in information that supports the group decision
- Failure to work out contingency plans to cope with foreseeable setbacks

The Army stresses teamwork, shared understanding and *esprit de corps*. These are admirable traits in the profession of arms. Janis points out however, "The more amiability and esprit de corps among the members of a policy making in-group, the greater is the danger that independent critical thinking will be replaced by groupthink, which is likely to result in irrational and dehumanizing actions directed against out-groups." Officers educated in red teaming, whether or not they are acting as a Red Team or simply a member of a plans team, must ensure groupthink does not take hold.

Symptoms of groupthink are:

- Overestimations of the groups power/invulnerability, and morality
- Closed mindedness and the tendency to rationalize away contrary information
- Pressures toward uniformity of thought within the group
- Self-censorship by individuals in the group, inclination to keep quiet
- The emergence of self-appointed mind-guards to protect group from adverse information
- Stereotyped views of enemy leadership and culture

The consequences of groupthink as stated by Janis are; "whenever a policy making group displays most of the symptoms of groupthink, we can expect to find that the group also displays symptoms of defective decision-making." How can a team avoid the consequences of groupthink?

Groupthink Mitigation

To mitigate groupthink in an organization certain techniques have been developed to try to overcome the symptoms identified by Janis. These techniques are targeted at the organizations as a whole, and situations where groups within that organization are in the decision making process. Janis discusses a number of themes at the organizational level that help mitigate groupthink:

- Senior leaders set the tone for the organization by encouraging decision making groups to air objections and doubts during the decision making process, and discourage members from soft-pedaling disagreements.
- Leaders in the organization should not prejudice the decision-making group with his/her favored course of action. The leader should allow the group to explore impartially a wide range of courses of action without the group feeling the pressure to conform to the leader's views.
- The senior leaders should setup multiple groups to examine the same problem. This allows for differing views and solutions for the leader to consider
  (see *Team A / Team B*)
- Senior leaders should bring in outside expertise to challenge the views being developed by the decision-making group.
- The leaders should assign individuals (if not individuals from the Red Team) to act as "devil's advocate" for solutions and COAs the group is developing.

During the actual decision-making process the following actions can be initiated to mitigate groupthink tendencies in a decision-making group:

- One of the keys to mitigating groupthink is to have all members of the group express their opinion absent pressure from the leader or group to conform. Weighted anonymous feedback techniques give the individual the ability to express his or her opinion in an anonymous fashion without being crushed by group pressure. The leader of the group can have the individuals in the group pre-commit their ideas by writing down their initial answers to the problem being discussed before the meeting occurs. This helps establish the individuals'

ideas prior to the group's deliberation, and mitigate the pull towards conformity. Another technique, *5 Will Get You 25*, will give each individual a voice in the finding the best COA without the group being dominated by the senior leader or one individual.

- To better facilitate discussion within a group there are a number of techniques which help all members of a group communicate better without being dominated by the senior leader or one dominating individual. Techniques like *1-2-4-Whole Group*, *5 Whys*, *Circle of Voices*, and *Troika Consulting* provide forums for everyone in the group to participate in the discussion concerning the problem.
- To better understand a problem the group faces, the group can use a number of techniques. Techniques like *Shifting the Burden*, *Stakeholder Mapping*, and *TRIZ* help the group elucidate the problem in a more coherent fashion and provide each individual an opportunity to participate in the discussion and become more aware of the nuances of the problem.
- To help generate a wider range of options/COAs for a problem, the group needs to go through a divergence-convergence thought process. Divergence thinking allows the group to explore multiple solutions to problems without constraints. A divergence technique like *Brainstorming* allows each group member to offer ideas for a solution to a problem without the idea being judged or "shot down" by the senior or dominating individual in the group. Once the group has identified a number of solutions/COAs, they can begin the convergence process of whittling down and refining viable options by using techniques like *6 Words*, *Dot Voting*, *My 15%*, *Troika Consulting* *(Ad Agency)*. All of these techniques help the group collectively come up with the best COA without being dominated by one individual.

The Operational Environment Laboratory (OEL) at Fort Leavenworth invited a Red Team in for a three-day leader program. The OE lab was being restructured and wanted to use red teaming techniques as a means of identifying and addressing organizational priorities. Much as described above, the Red Team facilitators used weighted anonymous feedback and other tools to identify the single most critical problem the leadership had to address in the near term. The OEL leaders then broke into small groups to work through some solutions. Towards the end of the second day the group appeared to

Premortem Analysis

This is a method for helping decision makers anticipate problems. The purpose of a Premortem is to find key vulnerabilities in a plan. In contrast to risk analysis, the Premortem begins with the assumption that the plan *has failed*. The pull of groupthink, consensus, and a false sense of security is punctured, and is replaced by an active search aimed at preventing trouble later on. The premise for the Premortem exercise is that people may feel too confident once they have arrived at a plan. Premortem analysis empowers the participants to question the premise of a proposed course of action, its assumptions, and tasks. It breaks ownership of a course of action through a divergent process that encourages objectivity and skepticism.

Dr. Gary Klein developed the concept of the Premortem analysis.[33] This is a powerful red teaming tool as it is 1] simple to use, 2] simple to understand, 3] and when used during the decision-making process will empower the red team and members of the larger plans team to question the premise of a proposed course of action, assumptions, or specified tasks.

When to Use

The ideal time to use a *Premortem Analysis* is just before the war gaming step in the decision making process, either the war game that analyzes proposed COAs or the war game that refines the selected COA into the concept of the operation.

Value Added

The use of a Premortem analysis will break the ownership of a particular course of action by a thorough, if rapid, session of answering the question, what would cause this course of action to fail if it is the basis for the operations plan?

The Method

Premortem analysis is an application of mental simulation. The premise for Premortem analysis is that people may feel too confident once they have arrived at a plan, especially if they are not highly experienced. The Premortem analysis requires one person to act as the scribe and must be limited in duration to no more than 30 minutes, ideally 20.

Step 1 Preparation. All members should be familiar with the base plan, at a minimum.

Step 2 Imagine a fiasco. Imagine that the plan failed. Ask, why did this happen? What could have caused this? Specifically, what are the *reasons*?

Step 3 Generate the reasons for failure. Participants individually spend several minutes writing down all the possible reasons for failure. It is important to do this individually first, so that the insights and experience of each participant are brought to bear.

Step 4 Consolidate the lists. Go around the room in round-robin fashion and solicit input from the participants, one at a time. Record the ideas on a whiteboard or poster paper. Continue until all ideas are exhausted. This is a divergent process in which four rules must be followed:

Rule 1: The more ideas, the better

Rule 2: Build one idea upon another. In other words, if someone else's idea prompts a new one from you, write it down.

Rule 3: Wacky ideas are okay. This rule bothers most people. Conventional wisdom dictates that "new" ideas must be sensible, reasonable, constructive, and practical. Wacky, silly, and foolish are subjective modifiers that people tend to apply to any idea that does not conform narrowly to a risk-free standard of sensible, reasonable, constructive, or practical. Although wacky ideas may seem foolish, they can generate serious thought.

Rule 4: Don't evaluate ideas, neither yours nor someone else's. This includes body language, eye rolls, nods or groans. This rule liberates people from their self-imposed restraints in generating ideas, and eliminates fear of criticism and ridicule.

Step 5 Revisit the plan. Based on the list of concerns, revisit the plan and determine what to mitigate. Determine "ownership" and develop concepts for modifications to the plan.

Step 6 Keep and periodically review the list. This helps keep the possibility of different types of failure fresh in everyone's mind as the plan develops or is implemented.[34]

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Lesson 6: ACT tools and GTM techniques
Appendix D: Handout—Select ACT tools and GTM techniques

1-2-4-Whole Group (GTM)

1. Have the participants find another person and share their ideas. Record any new thoughts or insights.
2. Invite each of the pairs to join up with another pair to briefly share their issues and any insights gained. Then share observations of the quality of each pair's examination of their issues. How were the issues framed? What was missing from the explanation? Were there biases detected?
3. Invite everyone back into the whole group. Ask an open question like "What insights emerged from your conversations? What did you learn? How has your understanding/view of the issue changed?"

4 Ways of Seeing (ACT)

Examining the situation using the ***Four Ways of Seeing*** may show the challenges you face:

1. How you view yourself, your unit, the mission, etc.
2. How the adversary (or indigenous people) views himself; his cause, unit mission, etc.
3. How you view the adversary (or indigenous people)
4. How the adversary (or people) views you
5. Identify disconnects between steps 1 & 4, 2 & 3. These are critical points that analysis and planning must address

How X Sees Itself	***How X Sees Y***
How Y Sees Itself	***How Y Sees X***

Thorough research should be conducted to complete the analysis of these perceptions. It is more complex than the simple model implies, for several reasons:

1. Seldom, if ever, will there be only two actors in the system under study.
2. All the actors' perceptions and inter-relationships within the system must be considered in order to provide context for the analysis.
3. How each actor perceives and defines the OE, legitimate targets and acceptable weapons must also be considered.
4. It must be realized that all actors hold values, beliefs, and perceptions that they view as right and rational.
5. Perceptions of the external audience(s) to whom we and our adversaries are playing cannot be discounted.

5 Whys (ACT)

1. Identify the answer or question you want to employ the 5 Whys against.
2. Ask "why?" at least five times, e.g., "Why is that important? Why should my staff section care about that? Why should resources be applied against that effort now?"
3. You don't need to stop at 5 whys, several "what" and "who" questions should arise as a result, like "what should do we do now? What are the implications of what is suggested? Who else needs to know?"
4. As you get answers, further deconstruct them with "Why" questions.

5 Will Get You 25 (GTM)

5 Will Get You 25 is a quick weighted anonymous feedback GTM Tool designed to anonymously collect the group's perspective about issues needing to be addressed.

1. Start with a priming question: *What is the single greatest obstacle to creating your lesson plan?*
2. Ask the participants to think about it and write their best idea as clearly and in as few words as possible on the card–a bullet, not an explanation.
3. When everyone has completed their card, invite the participants to stand up, mill around, and pass the card to someone new. Repeat the process until told to stop, and then have each participant read the card they hold. On the back, rate the idea from 1 to 5: 5 is brilliant, 1 not so much.
4. Once you grade the card, repeat the process. No one should grade their own card. Emphasize that the participants must read the reply without turning the card over and viewing previous scores in order to preclude being influenced by others' grades.
5. Repeat the process five times, in five rounds. By round five, each card should have five ratings on the back of the card. Add them up.
6. Ask "Does anyone have a card with a score of 25…24…23…" until you get a "yes." Ask that person to read the card aloud and record the reply on the white board or butcher paper. Continue with the countdown until you get at least the top five replies.

6 Words (ACT)

When writing down thoughts, try to keep them to 6 words to get to the core of an idea.
Think of it as creating a bumper sticker or a bullet on a white paper or PowerPoint presentation.

Appreciative Interviews (GTM)

Identify a question such as "Think of a time when you were able to suggest an out-of-the-box idea and you got a positive response."

1. Allow the group to take about five minutes to jot down some notes on their story.
2. Tell the group members to find a partner and share their stories. Allow about five minutes for each person's story
3. Enforce active listening: only one person tells their story without interruption, then the other person can ask questions, employing the ACT tool "5 Whys" as one way (or select another ACT tool).
4. After 10 minutes, tell the group members to find another partner to share their story with. Repeat the process for a couple of rounds.

Circle of Voices (GTM)

Circle of Voices is a simple facilitation practice designed to equalize participation and teach students that listening, appreciating, and synthesizing are just as crucial to good discussion as is making brilliant original contributions.

Either select a topic or have the students choose one. Have them form groups of five to six seated in a circle. Tell them to take a minute or so in silence to reflect on the topic and think about what they want to say about it. The discussion opens with one person having a period of uninterrupted "airtime" of no more than one minute. During this time the speaker may say whatever he or she wishes about the topic at hand. While the person is speaking, no interruptions are allowed. People take their turn to speak by going around the circle in order; this eliminates the stress of other participants having to decide when or whether to jump in, or for the speaker to worry about interruption before participants can finish their thoughts.

After the initial *circle of voices* is complete, discussion opens for anyone to speak. The only restriction during this period of discussion is that participants are only allowed to discuss other persons' ideas that have already been expressed. Participants may not expand on their own ideas, only share their reaction to something already said. This rule is intended to prevent *grandstanding*.

Circular Response (GTM)

This is a great way to facilitate discussion participation, promote continuity of conversation, and to give people some experience in the effort required for respectful listening.

Participants form groups of six to eight, seated in a circle. They are given a minute or so in silence to think about their response to a discussion topic or question. The conversation begins with one person having a period of uninterrupted "airtime" of no more than one minute. During this time the speaker may say whatever they wish about the topic at hand. While the person is speaking no interruptions are allowed.

After the minute is up, first speaker yields the floor to the person on their left, and that person speaks for a minute. The second speaker is not free, however, to say anything they want; rather, he or she must incorporate some reference to the preceding speaker's message in their remarks, and then use this as a springboard for their own comments. This does not have to be an agreement; it may be an expression of dissent from the previous opinion.

After a minute, the second speaker stops talking, and the person on their left becomes the third discussant, following the same ground rules. Following this pattern the discussion moves around the circle. After everyone has had the opportunity to speak, the floor is opened for unconstrained discussion.

The interesting thing about this facilitation technique is that the last person has no advantage over the second person; the last person to speak cannot mentally rehearse his or her "perfect" contribution because they have no idea what the person immediately before them is going to say until they say it.

Divergence–Convergence (GTM)

1. Facilitator goes around the room taking only one idea from each member of the group. Everyone speaks once before anyone speaks twice. Ideas are collected without commentary or criticism. If someone else offers something on your list, then scratch it out and offer something not yet raised.
2. This goes on until all lists are exhausted, or a number of predetermined rounds are completed.
3. Once everyone's list is exhausted and captured on the board, the group, aided by the facilitator, bins the ideas into a set of unique and distinguishable approaches so ideas bleed over on each other to the minimum extent possible. This sets the table for 'dot voting'.

Dot Voting (GTM)

Dot voting is a weighted anonymous feedback GTM Tool designed to anonymously collect the groups' perspective about the most urgent issues needing to be addressed. Identify the largest possible universe of issues using divergent thinking and collect them in a macro list

1. Starting with a list of issues/challenges/opportunities, e.g., a list of possible solutions that all the members can see. Number the issues 1-*n*.
2. Distribute 5x8 (or 3x5) index cards. Have each individual write a list of the numbers 1-*n* in a column on their 5x8 card.
3. Each person is then given a number of votes equal to half the number of issues, plus 2. If there are 20 issues, then half of 20 is 10; add 2 and each person has 12 votes.
4. Each member then "dot votes" on the issues by placing a dot next to the number of the topic that he or she wants to vote for. All votes can be given to a single topic, or each topic may receive only 1 vote, or divided up amongst the topics. Using the above example of each person having 12 votes: 12 topics might each receive 1 vote, 2 topics could receive 6 votes each, 1 topic could receive 6 votes, another 4 votes, and another 2 votes, and so forth.
5. Collect the index cards and total the number of votes for each idea or issue.

Fishbowl (GTM)

Create a circle of chairs in the center of a larger circle. Five to six chairs in the inner circle works well. If you have a very large group, there may be multiple outer circles.

Invite a small group of people who have direct experience with an issue or challenge into the small circle of chairs at the center. Ask this group to talk about the issue, sharing stories of their direct experience and insights as they might do if they were sitting in a coffee shop or at dinner together. They talk to each other, NOT the audience.

Invite the audience to ask questions and share their insights about the conversation while those in the center circle listen. Collect or record the questions. You might want to use index cards or have someone capture the questions on chart paper or a whiteboard.

Then invite the groups in each of the circles to discuss the issue with each other, that is, between the circles.

Modified-Problem Restatement (Rewrite) (ACT)

Problem Restatement is a powerful process in which new perspectives and informative insights may be gained from using techniques that may expose the "real" issue at hand. This modified version is focused on restating a question to help you build a priming question. Sometimes restating a question points to other deeper, better questions.

Begin with an initial question, such as "Is Russia great?"

1. **Employ a Why, How**, or other interrogative at the start of your question to get the students to answer it in a deeper matter.
2. **Turn it on its head.** We can also turn the question on its head: "What could stop Russia from being great?" This will get the students to look at it from a different perspective.
3. **Broaden the focus of the question**. How could Russia's perception of greatness affect its actions on the world stage? We broaden the scope of the question to bring in other variables that could be part of a system. The world is a complex place.

4. **Should vs. Could**. How should Russia be great? Vs. How could Russia be great? If you want one answer employ "Should", if you want a more divergent answer go with "Could". It is all dependent on the context of the question.
5. **Employ the "5 Whys" ACT tool on your question**. If my question is "How could Russia be great?" use the "5 Whys" to deconstruct and maybe identify a more narrow or broad question. The 1st WHY: *Why* is it important that Russia needs to great? Answer: Security. The key is to go deeper in the questioning. Note: You can use "What" and other interrogatives as well.
6. **Change the position of the words**.
7. **Bloom's Taxonomy**. Take into consideration the cognitive level of learning you are trying to achieve. Consider trying to achieve either a higher or lower level of Bloom's Taxonomy.
8. **Value-Laden Question**. Target the Affective Domain: how can you build a question that your target audience will value?
9. **Take a break**. Set time aside to write down your questions. Take a break, keep a journal, write down your thoughts.
10. **Have someone review your question**. Let them hear you say it for understanding, and then let them deconstruct it to get to purpose of why you are employing this question in the first place.

Premortem Analysis (ACT)

This ACT Tool is for helping decision makers anticipate problems and to find key vulnerabilities in a plan. In contrast to risk analysis, the tool begins with the assumption that the plan *has failed*.

1. Imagine a fiasco: a natural disaster, a man-made disaster, a missile or bomb that goes astray, or an exploding rocket launch, for example. Imagine that the plan (event, your lesson) failed. Ask why you thought this happened? What could have caused the fiasco or disaster? Try to focus specifically on the *reasons* for failure.
2. Generate possible reasons for failure. Have participants individually spend several minutes writing down all the possible reasons for failure. It is important to first do this individually, so that the insights and experience of each participant are brought to bear.
3. Consolidate the lists. Go around the room and solicit input from the participants, one at a time. Record the ideas on a whiteboard or poster paper. Continue until all ideas are exhausted.
4. Revisit the plan. Based on the list of possible reasons for failure, revisit the plan and determine what could have been done to mitigate or prevent the failure. Determine "ownership" and develop concepts for modifications to the plan.
5. Keep and periodically review the list. Reviewing the list of possible reasons for failure helps keep the possibility of different types of failure fresh in everyone's mind as the plan develops or is implemented.

Think—Write—Share (GTM)

This is the single most important idea or framework to enable critical thinking. Before tackling any issue, we should allow others to think independently and reflectively first, then have them write down (pre-commit) their thoughts–which helps them refine them—and finally have them share in a disciplined fashion by employing a GTM tool.

1. 5 x 8 index cards are useful for writing down thoughts.
2. Enforce active listening throughout; let the other person finish his or her thought before you speak.

3. Don't be a sea sponge (in one ear and out the other). Pan for gold, identify those nuggets of information to help you ask better questions.
4. Keep your groups small: to 3 to 4 members, with 8 being the maximum. Break larger groups down into smaller groups.

Troika Consulting (GTM)

This is a great process to help participants get started thinking about applications and action planning.

Invite participants to find two partners and sit down in a group of three (or four, but no more than four). Suggest that one member of the group be a time keeper to keep the group on track and to ensure everyone gets equal time. Give everyone time to reflect individually on a difficult or complicated question. It may be very useful for them to take notes.

Think about a challenge you are facing in your staff section or organization.

- What's the question you most need to answer in order to move forward?
- How can you answer that question?
- What's the biggest obstacle to making the changes you want to make?
- What must be done to move beyond that obstacle?

In each round of 10 minutes, one participant will share their challenge and ideas for next steps.

The first role of the partners is to ask questions to help hone and improve their ideas.

Next, the partners engage with each other about how they might handle the challenge and what possibilities might contribute to moving forward.

Switch roles so that each member of the Troika has a turn discussing and acting as a timekeeper. After each member of the Troika has had their turn, the group can spend some time in conversation about insights and patterns they noticed across the three rounds.

This is a method to tap into the wisdom of the crowd; it is not recommended to make a decision. It is a way to get feedback you might not otherwise get from your staff.

******Remember to link ACT tools and GTM techniques together to get a balance of critical and creative thinking.******

Questions Overview

Different Types of Questions. Facilitating student discussions can be one of the most difficult aspects of teaching. Listed below are some different types of questions one might use to encourage student participation in class.

Concrete Experience (CE)

Open Ended Questions

- What's Going On?
- What do you make of this situation?
- Could you be more specific?
- What are your suspicions?
- Casting question nets out to see what comes in. Listening for entry and emphasis points.

Asking for Information

- Where? When? Who? What? Facts and opinions.

Publish/Process (P&P)

Diagnostic Questions

- What did you observe
- How do you weave these points into some kind of understanding of what else is going on, possibly behind the scenes?
- Who else had the same experience?
- Who reacted differently
- How do you **interpret** and **explain** "A" and "B's" impact on the situation?

Challenge Questions

- Why do you say that?
- How would you explain?
- Where is the evidence for what you say?
- How can you say a thing like that?
- Is that all?
- That's just the opposite of what Student X said. Can you persuade him/her?
- How was that significant?
- What does that meant to you?

Extension Questions

- Exploring the issues. What else?
- Can you take us farther down that path or find new tributaries?
- Keep going
- Therefore?

- How do those fit together?
- What does that suggest about yourself/group?
- What do you understand better about yourself/group

Generalize New Information (GNI)

Generalizing and Summarizing Questions

- What inferences can we make from this discussion and case?
- What generalizations would you make?
- Does that remind you of anything?
- How does this relate to other experiences?
- What did you learn/relearn?

Combination Questions

- How would you relate your points to those mentioned by Student A or to something else you said?
- How would you understand X in light of Y?

Priority Questions

- Which issues do you consider most important?
- Where do you start?
- How would you rank these?
- What do you associate with that?

Develop/Apply (Value/Check on Learning)

Action Questions

- What would you do in Person X's shoes? How?
- How would you apply/transfer that?
- What modifications can you make work for you?
- What would you like to do with that?

Prediction Questions

- What do you think would happen if we followed Student Z's action plan?
- Give us a forecast of your expectations.
- How will he/she react to your thinking?

Summarizing Questions

- How would you summarize the three most critical issues that we have discussed?
- Can you summarize the high points of the discussion thus far?
- What were the pluses /minuses?

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Lesson 7

Foundations of Instruction (Direct)

Action: Demonstrate Direct Instruction instructional strategy
Conditions: Given learning activities, readings, peer and instructor feedback, reflection time, development time, and practical exercises.
Standards: The demonstration will include the following:
Identification of instructor characteristics
Effective communication techniques
Effective questioning techniques
Appropriate methods of instruction
A lesson plan or outline
Learning Domain - Level: None assigned
No JPME
Learning Areas Supported: None

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Appendix B
Handout #1: Instructor Roles

1. **Teaching** is an umbrella term, defined as "to cause to acquire knowledge or skill" (Merriam Webster's Collegiate Thesaurus). Teaching is synonymous with "Education", "Training", and "Instruction."

2. **Training** is defined as "improving performance by teaching, instructing, or facilitating learning" (ASTD Handbook). Training involves relatively inexperienced persons, often who are preparing for present or future jobs. Training methodology usually involves much repetition and drill.

3. **Coaching** is "giving constructive advice and feedback with the goal of improving performance" (ASTD Handbook). A coach gets the person or team to understand their current level of performance and guides their performance to the next level (FM 6-22). Coaching involves relatively experienced (initially trained) students. Coaching interventions should be short and intense, focused on specific performance or behavioral issues.

4. **Mentoring** is "sharing wisdom and expertise with less-experienced person(s)" (ASTD Handbook). *Mentorship* is the voluntary developmental relationship that exists between a person of greater experience and a person of lesser experience that is characterized by mutual trust and respect (AR 600-100). A mentor is a leader who assists personal and professional development by helping a mentee clarify personal, professional, and career goals and develop actions to improve attributes, skills, and competencies (FM 6-22). Mentorship is often, but not always, career-oriented ("Day in the life"). Although mentorship is often considered a one-on-one affair, it can also be conducted in group or virtual settings.

Ten Roles for Teacher Leaders

Cindy Harrison and Joellen Killion
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Teachers as Leaders Pages 74-77
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The ways teachers can lead are as varied as teachers themselves.

Teacher leaders assume a wide range of roles to support school and student success. Whether these roles are assigned formally or shared informally, they build the entire school's capacity to improve. Because teachers can lead in a variety of ways, many teachers can serve as leaders among their peers.

So what are some of the leadership options available to teachers? The following 10 roles are a sampling of the many ways teachers can contribute to their schools' success.

1. Resource Provider

Teachers help their colleagues by sharing instructional resources. These might include Web sites, instructional materials, readings, or other resources to use with students. They might also share such professional resources as articles, books, lesson or unit plans, and assessment tools.

Tinisha becomes a resource provider when she offers to help Carissa, a new staff member in her second career, set up her classroom. Tinisha gives Carissa extra copies of a number line for her students to use, signs to post on the wall that explain to students how to get help when the teacher is busy, and the grade-level language arts pacing guide.

2. Instructional Specialist

An instructional specialist helps colleagues implement effective teaching strategies. This help might include ideas for differentiating instruction or planning lessons in partnership with fellow teachers. Instructional specialists might study research-based classroom strategies (Marzano, Pickering, & Pollock, 2001); explore which instructional methodologies are appropriate for the school; and share findings with colleagues.

When his fellow science teachers share their frustration with students' poorly written lab reports, Jamal suggests that they invite several English teachers to recommend strategies for writing instruction. With two English teachers serving as instructional specialists, the science teachers examine a number of lab reports together and identify strengths and weaknesses. The English teachers share strategies they use in their classes to improve students' writing.

3. Curriculum Specialist

Understanding content standards, how various components of the curriculum link together, and how to use the curriculum in planning instruction and assessment is essential to ensuring consistent curriculum implementation throughout a school. Curriculum specialists lead teachers to agree on standards, follow the adopted curriculum, use common pacing charts, and develop shared assessments.

Tracy, the world studies team leader, works with the five language arts and five social studies teachers in her school. Using standards in English and social studies as their guides, the team members agree to increase the consistency in their classroom curriculums and administer common assessments. Tracy suggests that the team develop a common understanding of the standards and agrees to facilitate the development and analysis of common quarterly assessments.

4. Classroom Supporter

Classroom supporters work inside classrooms to help teachers implement new ideas, often by demonstrating a lesson, coteaching, or observing and giving feedback. Blase and Blase (2006) found that consultation with peers enhanced teachers' self-efficacy (teachers' belief in their own abilities and capacity to successfully solve teaching and learning problems) as they reflected on practice and grew together, and it also encouraged a bias for action (improvement through collaboration) on the part of teachers. (p. 22)

Marcia asks Yolanda for classroom support in implementing nonlinguistic representation strategies, such as graphic organizers, manipulatives, and kinesthetic activities (Marzano et al., 2001). Yolanda agrees to plan and teach a lesson with Marcia that integrates several relevant strategies. They ask the principal for two half-days of professional release time, one for learning more about the strategy and planning a lesson together, and the other for coteaching the lesson to Marcia's students and discussing it afterward.

5. Learning Facilitator

Facilitating professional learning opportunities among staff members is another role for teacher leaders. When teachers learn with and from one another, they can focus on what most directly improves student learning. Their professional learning becomes more relevant, focused on teachers' classroom work, and aligned to fill gaps in student learning. Such communities of learning can break the norms of isolation present in many schools.

Frank facilitates the school's professional development committee and serves as the committee's language arts representative. Together, teachers plan the year's professional development program using a backmapping model (Killion, 2001). This model begins with identifying student learning needs, teachers' current level of knowledge and skills in the target areas, and types of learning opportunities that different groups of teachers need. The committee can then develop and implement a professional development plan on the basis of their findings.

6. Mentor

Serving as a mentor for novice teachers is a common role for teacher leaders. Mentors serve as role models; acclimate new teachers to a new school; and advise new teachers about instruction, curriculum, procedure, practices, and politics. Being a mentor takes a great deal of time and expertise and makes a significant contribution to the development of a new professional.

Ming is a successful teacher in her own 1st grade classroom, but she has not assumed a leadership role in the school. The principal asks her to mentor her new teammate, a brand-new teacher and a recent immigrant from the Philippines. Ming prepares by participating in the district's three-day training on mentoring. Her role as a mentor will not only include helping her teammate negotiate the district, school, and classroom, but will also include acclimating her colleague to the community. Ming feels proud as she watches her teammate develop into an accomplished teacher.

7. School Leader

Being a school leader means serving on a committee, such as a school improvement team; acting as a grade-level or department chair; supporting school initiatives; or representing the school on community or district task forces or committees. A school leader shares the vision of the school, aligns his or her professional goals with those of the school and district, and shares responsibility for the success of the school as a whole.

Joshua, staff sponsor of the student council, offers to help the principal engage students in the school improvement planning process. The school improvement team plans to revise its nearly 10-year-old vision and wants to ensure that students' voices are included in the process. Joshua arranges a daylong meeting for 10 staff members and 10 students who represent various views of the school experience, from nonattenders to grade-level presidents. Joshua works with the school improvement team facilitator to

ensure that the activities planned for the meeting are appropriate for students so that students will actively participate.

8. Data Coach

Although teachers have access to a great deal of data, they do not often use that data to drive classroom instruction. Teacher leaders can lead conversations that engage their peers in analyzing and using this information to strengthen instruction.

Carol, the 10th grade language arts team leader, facilitates a team of her colleagues as they look at the results of the most recent writing sample, a teacher-designed assessment given to all incoming 10th grade students. Carol guides teachers as they discuss strengths and weaknesses of students' writing performance as a group, as individuals, by classrooms, and in disaggregated clusters by race, gender, and previous school. They then plan instruction on the basis of this data.

9. Catalyst for Change

Teacher leaders can also be catalysts for change, visionaries who are “never content with the status quo but rather always looking for a better way” (Larner, 2004, p. 32). Teachers who take on the catalyst role feel secure in their own work and have a strong commitment to continual improvement. They pose questions to generate analysis of student learning.

In a faculty meeting, Larry expresses a concern that teachers may be treating some students differently from others. Students who come to him for extra assistance have shared their perspectives, and Larry wants teachers to know what students are saying. As his colleagues discuss reasons for low student achievement, Larry challenges them to explore data about the relationship between race and discipline referrals in the school. When teachers begin to point fingers at students, he encourages them to examine how they can change their instructional practices to improve student engagement and achievement.

10. Learner

Among the most important roles teacher leaders assume is that of learner. Learners model continual improvement, demonstrate lifelong learning, and use what they learn to help all students achieve.

Manuela, the school's new bilingual teacher, is a voracious learner. At every team or faculty meeting, she identifies something new that she is trying in her classroom. Her willingness to explore new strategies is infectious. Other teachers, encouraged by her willingness to discuss what works and what doesn't, begin to talk about their teaching and how it influences student learning. Faculty and team meetings become a forum in which teachers learn from one another. Manuela's commitment to and willingness to talk about learning break down barriers of isolation that existed among teachers.

Roles for All

Teachers exhibit leadership in multiple, sometimes overlapping, ways. Some leadership roles are formal with designated responsibilities. Other more informal roles emerge as teachers interact with their peers. The variety of roles ensures that teachers can find ways to lead that fit their talents and interests. Regardless of the roles they assume, teacher leaders shape the culture of their schools, improve student learning, and influence practice among their peers.

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Authors' note: The 10 roles are described in more detail in *Taking the Lead: New Roles for Teachers and School-Based Coaches* by J. Killion and C. Harrison, 2006, Oxford, OH: National Staff Development Council. Although the names have been changed, all examples are based on actual teachers we encountered in our research.

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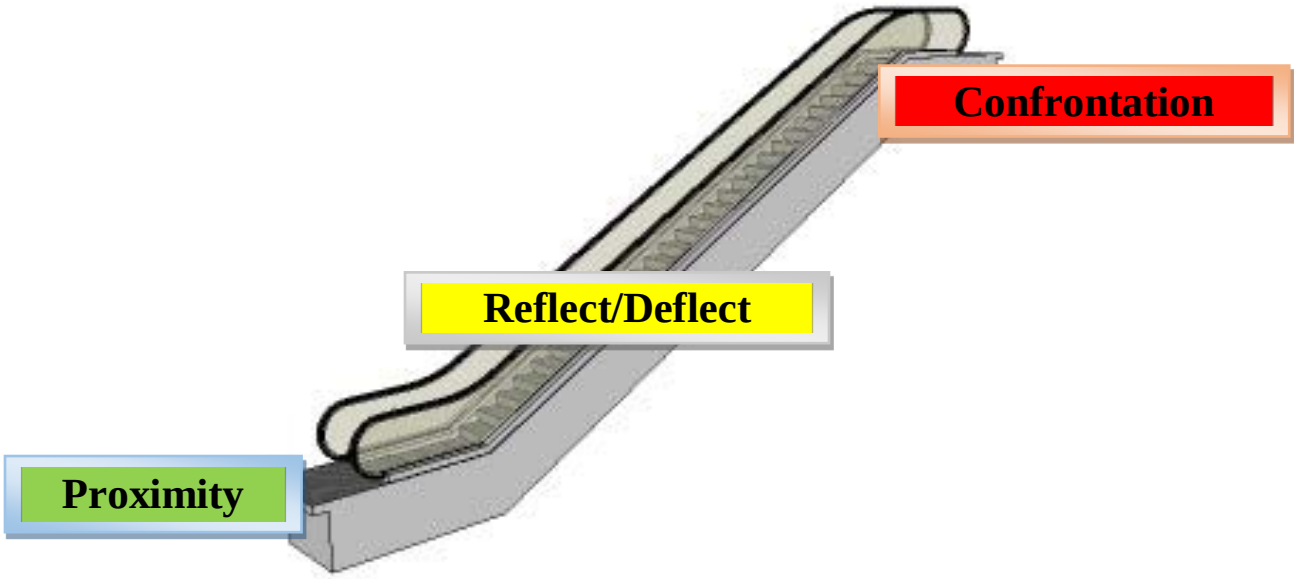
Appendix C
Handout #2: Classroom Management Strategies

Escalation Scale. This is an overall concept—it pertains to the ideal way in which strategies are employed in the classroom. Escalation is the process whereby the involvement of the instructor becomes more pronounced as the behavior occurs. The instructor should start at the lowest level of intervention and "escalate" to a higher level, if needed, to minimize disruption to instruction. This also allows the instructor time to observe and document problem behavior before escalating to a supervisor referral. For example, when students have sidebars—starting with Proximity, you would be close by to see if that would stop the behavior. If that did not work, you could use Questioning Techniques (Formal and Informal Student Checks) to encourage the students to participate in the class discussion. If the situation does not improve, you could escalate to Confrontation and a possible Supervisor referral. However, there are times when the instructor must move immediately to higher levels on the escalation scale due to the issues involved: safety issues, property damage, endangerment of bodily harm, and so forth.



Least <…….……Severity of Behavior/Intervention.…….>Most

Establishing Norms. Setting classroom norms at the very beginning of a class is one of the most important methods of classroom management. Start with a few of your own expectations and ask the group for additional suggestions. When you all agree on how you want the classroom to be managed, disruptions are minimal. Norms such as cell phones on silent, drinks and food in an established area, and raising hands to answer questions are typical behavioral norms an instructor should establish early on.

Modeling. "Values are caught, not taught." Teachers who are courteous, prompt, enthusiastic, in control, patient, and organized provide examples for their students through their own behavior. The "do as I say, not as I do" teachers send mixed messages that confuse students and invite misbehavior.

Proximity. Students typically increase their attention to task and show improved compliance when the teacher is in close physical proximity. Circulate around the room to keep students focused. Proximity is the lowest level on the scale and is used to minimize mild disruptions without interrupting the flow of instruction. This usually works on 90% of behavior problems.

Movement and Distance. Movement around the room is a method used to encourage discussion. Movement is an effective way to stress an important idea. It can also serve as a signal to students that you have completed one idea and are ready to transition to the next. This is also a good strategy to prevent cheating or to check on students during a practical exercise or computer based instruction and testing.

Questioning Techniques. Questions (formal and informal student checks) are a way to motivate, set goals, stimulate thinking, convey purpose, and create a positive learning environment. Student Checks that verify comprehension and involve the non-participant is a graded portion on your Instructor Performance Evaluation sheet.

- ***During a lesson***: Questions inspire thinking and reflection, allow students to review what they're learning, involve students in evaluating their understanding of implicit and explicit learning, and encourage students to think ahead—to predict, anticipate, problem solve, and identify trends and patterns.
- ***After a lesson***: Questions prompt students to summarize what they learned, make analogies, reflect, draw conclusions, incorporate new learning with prior learning, and extend learning.

Selective attention. Selective attention can be used for the "monopolize" and the "sharpshooter." The instructor selectively ignores the monopolize or sharpshooter and chooses students who have not yet had a chance to participate in the discussion. This gives the rest of the class an equal chance to contribute to learning, to participate in a discussion, and minimizes disruption to the instruction.

Peer Support. By creating classrooms that encourage peer support, we capitalize on the experience, knowledge, and abilities of our students and their relationships. Peer mentoring may help new students adapt to a new academic environment faster. Mentors are chosen because they are generally academically successful and because they possess good communication, social, and leadership skills. As a consequence, mentors serve as positive role models for the students, guiding them toward academic and social success. For example, peer support can be used to address a sleepy student. A peer could remind the sleepy student that he or she should pay attention and not fall asleep.

Scaffolding. Scaffolding is a technique in which the instructor helps a student master a task or concept he or she is initially unable to grasp independently. The instructor offers assistance with only those skills that are beyond the student's capability. Of great importance is allowing the student to complete as much of the task as possible unassisted. When the student masters the task, the teacher gradually removes the scaffolding, which allows the student to take on more responsibility. The instructor must first ascertain what the student already knows so it can be connected to the new knowledge and made relevant to the learner, thus increasing the motivation to learn. Once the student becomes more proficient in the language or the task, the instructor begins to remove the scaffolding until he or she is able to perform the task independently.

Agree/Disagree/Deflect. When you disagree with a participant's remarks or arguments, but don't wish to embarrass them, first find something with which to agree (yes, you are right, this is common), then gently disagree with the key issue (I'm not sure this is the only way to handle it). Lastly, Deflect to the group for comment (has anyone else found another way to handle it?).

Refocus. Find a verbal bridge to the next point. "Yes, that's important because . . . " (link to next point). This is a helpful strategy to employ when the conversation veers off topic.

Naming. This is a powerful technique for keeping participants' attention and interest. *Backtrack naming*—refer to participants' names and to contributions they made earlier. *Naming* is particularly

useful for the following: boosting participants' confidence; preempting objections; giving the spotlight to those who want it; and keeping boredom at bay.

Non-Verbal. When words fail you, a non-verbal signal can be very effective in handling participant interventions, possibly during a discussion when one student is finishing his or her thought and another student wants to comment. Holding a hand up could give them the signal to wait until the other student is done. Cognitively, gestures operate to clarify, contradict, or replace verbal messages. Gestures also serve an important function with regard to regulating the flow of conversation. For example, if a student is answering a question in class, single nods of the head from the teacher will likely cause that student to continue and perhaps elaborate.

Positive/Negative Reinforcement. Positive reinforcement is preferred over negative reinforcement because students respond better to positive reinforcement and are more likely to become engaged with the instructor and the class if they view the learning activity as something beneficial to them. Students want to be treated in a positive way, rather than a negative or punitive way. For example, receiving the highest score on a test might gain a student extra time in the simulation room, or result in allowing them their choice of work station, and so forth. A common example of negative reinforcement is extending instructional time to punish students for failing to participate in class. This type of negative reinforcement contributes to instruction being viewed as a "punishment," a perception that detracts from engagement in the learning.

Informal Conference. Informal Conference is strategy wherein the instructor speaks with a student privately in an informal way in order to address problems before they become larger issues. It is usually done during class breaks, before, or after class. The informal conference is a good way for an instructor to gather additional information about a student in order to make a decision with respect to an appropriate response. For example, if a student is constantly falling asleep in class, the instructor may speak with him or her privately during a class break to find out why—there may be mitigating circumstances, such as a medical or family issue that that is contributing to a lack of sleep.

Confrontation. Usually, confrontation is a last resort strategy. If you start off at the high end of the escalation scale with confrontation, you do not have anywhere else to go if the behavior persists. By starting with Confrontation in behavioral situations—such as talking during class at inappropriate times—you have lost instruction time and credibility as an instructor. Sometimes, the best way to handle a "challenger" is to go straight to the point and address the unwanted behavior. Always look for something positive if they show a change. Confrontation should be used as the initial classroom management strategy only when there is a threat to life, personal injury, property damage, or some other impending danger.

Supervisor Referral. Supervisor referral is when the instructor refers the student to his or her chain of command for guidance or discipline beyond the scope or capability of the instructor. An example would be when the instructor directs a student to to report to his or her NCOIC for corrective action, counseling, or discipline. Whenever possible, the instructor should document the behavior as a record of recurring behavior or performance issues, along with a description of classroom managements strategies already applied to the situation.

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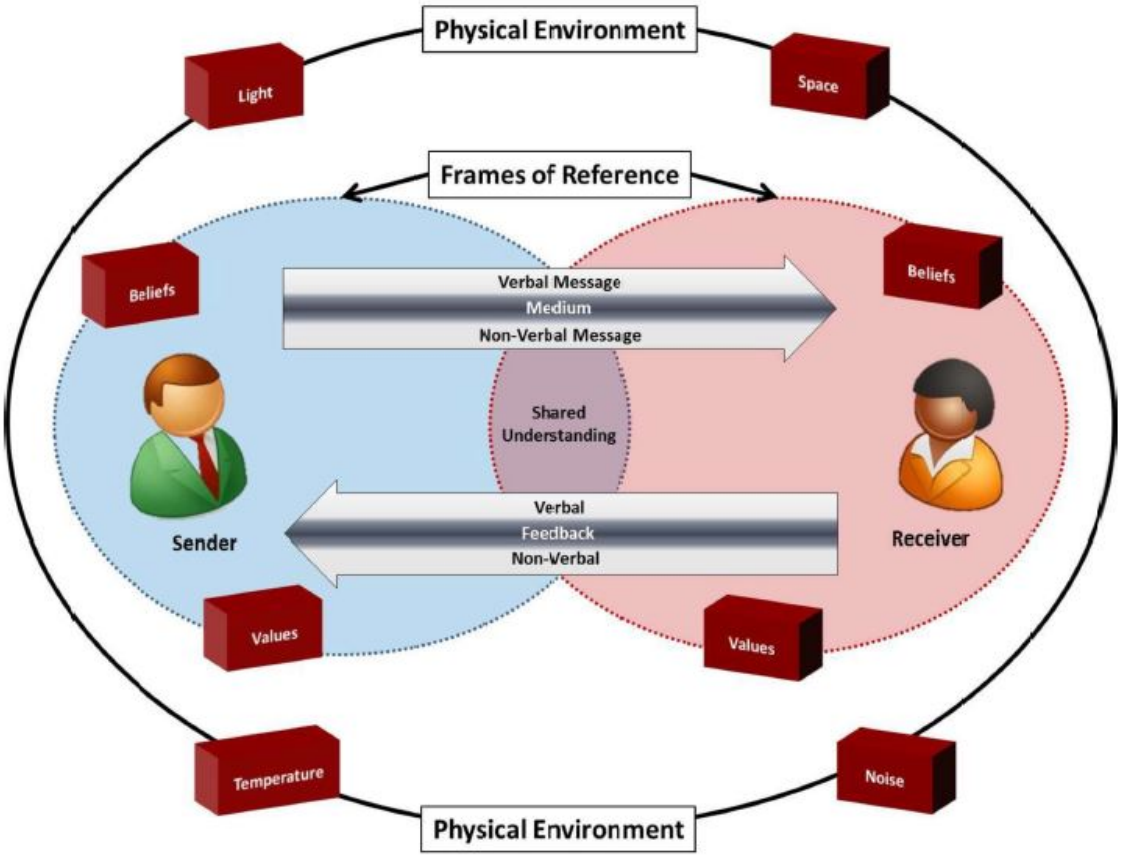
Appendix D
Handout #3: The Communication Process

The Goal of Communication is to Be Understood!

Simply sending a message does not assure the person on the other end will receive it. The point of communication is to understand the message. Effective communication is a two-way process. Communication in the learning environment can serve as a catalyst for creating a more interactive, student-centered classroom thereby allowing students to become more actively involved in learning.

A basic communication model consists of the *sender* and *receiver*, the *medium* that carries the message (verbal and non-verbal aspects), *contextual factors* (such as *physical environment* and *frames of reference*), the *message itself*, and *feedback* (verbal and non-verbal).

Communication Model



Components.

1. **Message**. Concept or idea to be transmitted. During instruction, the message may be course content.
2. **Medium**. *How* the message is sent. The instructor's primary medium may be verbal communication. Instructors also use visual media to communicate content.
3. **Sender and Receiver**. Instructors and students.
4. **Frames of Reference**. How people interpret their physical environments. Frames of reference are often influenced by personal beliefs and values. It is possible that people might have completely different frames of reference; however, there is usually some degree of commonality.
5. **Barriers**. Things that hinder communication. Beliefs and values are sometimes barriers. Some other barriers that may be part of the physical environment are noise, temperature, lighting, and space.
6. **Feedback**. Verbal and non-verbal indicators that the message is understood.

Communication Considerations (verbal and non-verbal)

Verbal

1. **Projection.** Use variations in projection or volume to emphasize significance or importance in communication. Consider room size and environmental distractions when dealing with projection. Often by speaking softly or in a low tone, instructors can get the attention of students. In speaking low, instructors force students to listen actively. Practice speaking from the diaphragm instead of from the throat.
2. **Pitch.** Variation in pitch or tone of voice (ups and downs; vocal range) aids in emphasizing important ideas, signaling transitions between instructional topics, as well as adding interest to the instructor's voice. You should avoid a monotone delivery as all the words tend to blend and the content of the message becomes lost. Use pitch appropriately. Practice by reading sentences or paragraphs aloud, emphasizing different words.
3. **Pace.** Variations in the rate of speech augment effective communication. The complexity of the information you must communicate should govern the rate of speech. Talking too fast has the same effect as monotone. However, do not overcompensate by talking too slowly. Make sure that students understand your words AND the topic you are covering. Practice by reading sentences or paragraphs aloud at different rates of speed.
4. **Pauses.** Selective use of pauses or silence adds emphasis, focuses student attention, and allows time for students to absorb what you, as an instructor, have just said. Pausing also allows you to observe the participants' feedback. Pausing is a learned trait associated with experienced instruction and can require practice before being successfully employed. Consider highlighting or underlining points in your lesson to serve as cues to pause. Rehearse the lesson aloud in front of others, pausing until you feel uncomfortable, then waiting a few seconds more.
5. **Pronunciation.** Clear pronunciation and proper grammar are components of effective communication. Proper pronunciation serves two important functions: it makes it easier for students to understand your message, but it also helps you in maintaining the credibility you established at the beginning of the class. Practice pronouncing words that are hard for you, or use a suitable replacement word that you can more easily pronounce.
6. **Distractors.** Even if you have never heard the term "verbal distractors," you are fully aware of what they are. If you have ever had a conversation with someone who repeatedly said "like"– as in "like, when I was in Florida I, like, really had a good time." Verbal distractors are crutch words that people sometimes use without realizing it. In extreme cases they can be so bad they have the effect of

hypnotizing the audience. Distractor examples include: umm, uh, you know, like, hmm. The best way to learn to minimize distractors is to video record yourself, then watch the recording.

Non-verbal

All people make judgments based on non-verbal communication. Your body communicates confidence or lack of it long before you utter the first words of instruction to your students. Non-verbal communication can be your best or worst visual aid. Just as verbal communication is composed of various components, the same is true for non-verbal communication.

General Appearance. Every instructor makes a first impression even before speaking the first word to the students. Students will decide whether you are confident, sincere, friendly, eager to address them, and worthy of their attention. In large measure, they will base this decision on what they see.

Posture. An upright posture exudes confidence and assurance. The instructor's stance should be comfortable and relaxed, yet erect and stable. Avoid the extremes of being either too relaxed or too rigid.

Body Movement and Distance. Movement around a room is a method used to encourage discussion. Movement toward individuals may encourage them to get involved in the discussion. Movement is an effective way to stress an important idea. It can also serve as a signal to students that you have completed one idea and are ready to transition to the next.

Eye Contact. Eyes can both send and receive messages. Effective eye contact shows interest, increases instructor credibility, and is a tool for assessing feedback. You should make eye contact with each student throughout a lesson. When speaking, your eyes also function as a control device that you can use to ensure students are attentive and focused. Use eye contact as a classroom management tool. Often a stern look is all that you need to redirect a distracted student or correct potentially disruptive behavior.

Gestures. Facial expressions, affirmative nods and smiles, and hand movements that reinforce speech are non-verbal tools you can use to augment verbal communication. Students in the classroom closely watch instructor's facial expressions. Facial expressions provide non-verbal communication cues that typically supersede verbal communication.

Non-verbal Distracters. Just as you must be aware of verbal communication distracters when communicating instruction, the same holds true for non-verbal distracters. Instructors must be mindful of non-verbal communication distracters that can hinder effective communication. Examples of non-verbal distracters include finger tapping, frowning, head nodding, rocking, or arm-crossing.

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Appendix E
Handout #4: Active Listening

Active listening is listening with a purpose. It is more than just hearing, which is the act of perceiving sound. When you hear a sound, you are receiving aural stimuli. Listening goes beyond just registering that there is a sound in the environment. It involves receiving and interpreting the aural stimuli, and creating meaning from the sound.

Using active listening skills can help to minimize or avoid unnecessary conflict. It can bring clarity and understanding to conversations and interactions with other people. In order to work, the listener must focus on the words and the feelings of the speaker for understanding. Active listening happens when the listener hears the various messages being sent, understands their meaning, and then verifies that meaning by offering feedback.

Active listeners . . .

- Spend more time listening than speaking
- Let the speaker finish his or her own sentences
- Are aware of their own biases
- Let the other person finish speaking before responding
- Allow the other person to speak and do not dominate the conversation
- Ask open-ended questions
- Focus on what is being said—not what their responses will be

To develop these skills and characteristics, it helps to be aware of some verbal active listening techniques, and nonverbal techniques. When engaging in active listening, or in any form of communication, it is important to remember that there is more to it than just the spoken part. There are many non-verbal behaviors to listening and communicating.

Active Listening Techniques

Type of Statement	Purpose	To Achieve Purpose	Examples
Encouraging	1. To convey interest 2. To keep the person talking	Don't agree or disagree. Use noncommittal words with a positive tone of voice.	1. "I see . . ." 2. "Uh-huh . . ." 3. "That's interesting . . .
Restating	1. To show that you are listening and understand 2. To let the other person know you grasp the facts	Restate the other person's basis ideas, emphasizing the facts	1. "If I understand, your idea is . . ." 2. "In other words, your decision . . ."
Reflecting	1. To show that you are listening and understand 2. To let others know you understand	Restate the other person's basic feelings	1. "You feel that . . ." 2. "You were pretty disturbed by this . . ."
Summarizing	1. To pull important ideas, facts, etc. together 2. To establish a basis for further discussion 3. To review progress	Restate, reflect, and summarize major ideas and feelings	1. "These seem to be the key ideas you have expressed . . ." 2. "If I understand you, you feel this way about the situation . . ."

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Appendix F
Handout #5: Effective Questioning Techniques

Types of Questions

Learning to use engaging questions is an excellent rehearsal consideration. Questioning is one strategy to enhance student engagement and participation throughout the lesson.

Questioning students during instruction is a formative way to assess student learning. Throughout the lesson, you should use questions and other formative assessment methods to assess student comprehension and application of content, and their readiness to move to deeper or more critical levels of learning.

We will look at four 4 major question types during this course: Assessment, Content, Procedure, and Open/Closed Questions. There are many other types of questions we could use during instruction, but these are the ones will be discuss and learn about in the instructor course.

Assessment Questions

Training and education developers design questions into lesson plans so instructors can assess student learning and see if students are making progress. These questions can address both the content and procedures of the lesson.

Content Questions

Content questions are used to determine student understanding of new content. Once again, the training and education developer develops these questions when he/she is planning the content of the lesson. Instructors are encouraged to add to those questions.

There are two types of content questions – they can be either specific or summary type.

A specific content question asks the Who, What, When, Where Why and How questions. For example, "What strategies can an instructor use when planning to teach difficult-to-understand material?"

Procedural Questions

Use procedural questions to determine if the student knows the correct sequence for a procedure for performing a task. The instructor may want to do this before the student actually performs the task. The instructor should have demonstration equipment and materials at hand when asking these questions.

One example of a procedure knowledge question would be, "What are the steps for digging a two-man fighting position?" Select a student, have them come forward and outline the procedural steps on the flip chart or dry erase board.

Open-ended and Closed-ended Questions

Open-ended questions require higher levels (more sophisticated) of thinking by students regarding the learned material. Answers require a more comprehensive response that may highlight multiple possibilities for addressing the question. The responder cannot answer with a Yes/No.

Closed-ended questions typically have short answers that are right or wrong (Yes/No). Answers require recall of material and a low level of knowledge. You can phrase both procedural and content questions as open or closed questions, but (in the case of closed questions) you must be careful that the students

answer accurately. In order to check on student learning sufficiently, use a mixture of questions throughout instruction.

Questioning Technique.

Ask, Pause, Call, Evaluate (APCE) is an effective and easy to remember questioning technique. It is a basic, but effective, framework for questioning that allows for the presentation of the question, a wait time or pause for the students to reflect, a method to recognize students after a question is asked, and a method for providing feedback to students. This framework is most effective when used with large groups, but can also be applied in smaller groups during direct instruction. A skilled instructor can apply this technique regardless of the *types* (content, procedural, etc.) or *categories* (Bloom's, Socratic, Costa, etc.) of questions.

Ask. Ask the question. In order to ask effective questions, instructors must be familiar with the material, equipment, and media. Avoid misleading questions and ensure students have the *capability* to answer: were they provided material to read? Are they alert and "present" in the classroom? Can they hear your question?

Pause. Pause to allow all learners to think about their response. The pause serves two purposes: to prevent spontaneous "sounding off" by an individual in the class and to students time to reflect and develop an answer or response. Depending upon the difficulty of the question, the instructor should expect to wait between 5 to 15 seconds—which will seem like forever the first time you teach, but it really isn't very long at all. Most students are more uncomfortable with long silences in the classroom, but force a minimal pause to give everyone an opportunity to reflect. The length of the pause time can be even longer if you are using distance-learning technology. New instructors must to learn to be comfortable with silence, ignore outbursts, and try to select responses from all students. Scan the room, read the students' body language and facial expressions, then decide whether to call on someone with a hand raised or someone who didn't raise a hand. As a last resort, be prepared to restate the question.

Call. Do not always call on someone who has raised his or her hand to answer the question. Students must learn to pay attention and think because you may call on them at any time.

Evaluate. Evaluate the response(s) you receive by applying immediate feedback. Avoid responding using a "yes" or "no." Instead, develop the habit of reinforcing the appropriate response. If a student answers correctly, paraphrase their response. Redundancy will help all students understand the correct answer. If a student answers incorrectly, acknowledge their response, ask another student to help, or provide the correct answer after students continuously answer incorrectly. Instructors may reinforce the first student response and redirect to another student for a response, or seek other responses to the same question.

Creating Good Discussion Questions

Level. A low level question is one that requires only rote memory or simple rephrasing of materials. Such questions evoke memories of classroom drill and tend to turn adult learners off.

Example: *What are the main characteristics of outcomes focused instruction?*

In contrast, a high level question is one that requires the operations of analysis, synthesis, and evaluation.

Example: *Would outcomes focused instruction be as beneficial if intangibles were not involved? Why or why not?*

Clarity. An unclear question either contains several questions or is interspersed with background information. This makes it unlikely that learners will feel that they know what is being asked of them or that learners will hear the question as stated.

Example: *What is an outcome and its significance to the contemporary operational environment as well as its significance to tangibles, intangibles, and context?*

In contrast, a clear question is singular in nature allowing learners to focus on one issue at a time and increasing the likelihood that learners have heard the question as it was stated.

Example: *What is the significance of outcomes focused instruction?*

Focus. An unfocused question is wide open and therefore requires time to organize a good answer.

Example: *What do you think of outcomes focused instruction?*

In contrast, a focused question is one that directs the learner to specific approaches or to specific areas of the subject matter as a means of arriving at an answer. This helps learners narrow their focus and arrive at an answer more quickly.

Example: *What are some of the outcomes from Initial Entry Training (IET)?*

Response. A closed question implies that there is a single right answer to a question, making it risky to answer and requiring more time to organize an answer.

Example: *What is the main focus of outcomes focused instruction?*

In contrast, an open question indicates that there are a number of plausible answers, making it safer to venture a viewpoint and allowing for more spontaneity in offering responses to the question.

Example: *What are some of the benefits of outcomes focused instruction?*

Tip #1: Questions that generate good discussions are:

- high level
- clear
- focused
- open

Tip #2: Carefully choose the "level" of the question ensuring that the learner has the necessary information and skills to answer it.

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Appendix G
Handout #6: Asking Questions to Improve Learning

When you prepare for class, office hours, and help sessions, compose specific questions to ask your students (or that you anticipate they will ask you). Doing so will help you increase student participation and encourage active learning. The strategies below may also help you formulate questions for exams and paper assignments.

Active learning extends beyond the classroom. When you ask questions in the classroom, you are modeling a process that students can and should use themselves; encourage your students to use the following questioning strategies to assess what they have learned, to develop their thinking skills, and to study for exams.

General Strategies for Asking Questions

- **When planning questions, keep in mind your course goals.** For example, do you want students to master core concepts? To develop their critical thinking skills? The questions you ask should help them practice these skills, as well as communicate to them the facts, ideas, and ways of thinking that are important to their learning in your course.
- **Avoid asking "leading questions."** A leading question is phrased in such a way that it suggests its own answer and therefore discourages students from thinking on their own.
- **Follow a "yes or no" question with an additional question.** For example, follow up by asking students to explain why they answered the way they did, to provide evidence or an example, or to respond to a yes/no answer given by another student. A yes/no response has an even chance of being correct, which is important to most students. From the instructor's perspective, either answer will suffice now that you have the student "hooked" and has to respond to your follow-up questions.
- **Aim for direct, clear, specific questions.** During class discussions, rather than beginning with a single question that is multilayered and complex, use a sequence of questions to build depth and complexity. Essay questions on exams or paper assignments, on other hand, often provide an appropriate opportunity to ask multi-layered questions. If your exam will include multi-layered questions, use questions during class time to walk students through the process of answering those kinds of questions.
- **In class discussions, do not ask more than one question at once.** When you ask more than one question, students may not respond because they are unsure which question you want them to answer.
- **Plan your pauses.** When you plan each class session, include notes of when you will pause to ask and answer questions. Asking questions throughout the class will not only make the class more interactive, but also help you measure and improve student learning. Do not save the last two minutes of class for questions. Students are unlikely to ask questions when they know that only a few minutes remain.
- **Ask a mix of different types of questions.** You should use **"closed" questions**, or questions that have a limited number of correct answers, to test students' comprehension and retention of important information. You should also ask **managerial questions** to ensure, for example, that your students understand an assignment or have access to necessary materials. **"Open" questions**, which prompt

multiple and sometimes conflicting answers, are often the most effective in encouraging discussion and active learning in the classroom. For examples of "open" questions and the purposes they can serve, see below.

Responding Effectively

- **Wait for students to think and formulate responses.** Waiting 5-10 seconds will increase the number of students who volunteer to answer and will lead to longer, more complex answers. If students do not volunteer before 5 seconds have passed, refrain from answering your own question: doing so only communicates to students that if *they* do not answer, *you* will do their thinking for them. If the students are unable to provide a cogent response within a reasonable amount of time, consider rephrasing the question or exploring why they are having difficulty responding.
- **Do not interrupt students' answers.** You may find yourself wanting to interrupt because you think you know what the student is going to say, or simply because you are passionate about the material. Resist this temptation. Hearing the students' full responses will allow you to give them credit for their ideas, ascertain what they have learned, and to determine when they have not yet understood the material.
- **Show that you are interested in students' answers, whether right or wrong.** Encourage students when they are offering answers by nodding, looking at them, and using facial expressions that show you are listening and engaged. Do not look down at your notes while they are speaking. Take advantage of an incorrect or not quite correct response by using it as a teaching moment, if possible: make it a launching point to explore why the response is not correct, what could make it more correct, and where the student may have gone wrong.
- **Develop responses that keep students thinking.** For example, ask the rest of the class to respond to an idea that one student has just presented, or ask the student who answered to explain the thinking that led to his or her answer. Try to generate some lines of critical thinking, point-counterpoint, and other Applied Critical Thinking (ACT) techniques discussed earlier in the course.
- **If a student gives an incorrect or weak answer, point out what is incorrect or weak about the answer, but ask the student a follow-up question that will lead that student—and the class—to the correct or stronger answer.** For example, note that the student's answer overlooks the most important conclusion of the study you are discussing, then ask that same student to try to recall what that conclusion is. If he or she does not recall the conclusion, open this question up to the class to generate a collaborative correct response.

Why Ask "Open" Questions?

Twelve Objectives, with Sample Questions

1. **To assess learning.**
    - *What is the most important idea that was generated in today's discussion?*
    - *Can you explain this concept in your own words?*
    - *Can you draw a diagram to illustrate this idea?*
2. **To ask a student to clarify a vague comment.**
    - *Could you elaborate on that point?*
    - *Can you explain what you mean?*
3. **To prompt students to explore attitudes, values, or feelings (when appropriate).**
    - *What are the values or beliefs that inform this argument?*

- *What is your initial reaction to this argument?*

4. **To prompt students to see a concept from another perspective.**
   - *How do you think that this issue is viewed by those with whom you disagree?*
   - *How does that concept apply to this new problem?*
5. **To ask a student to refine a statement or idea.**
   - *When does that principle apply? Always? Only under certain conditions?*
   - *Would you say, then, that you disagree with the author?*
6. **To prompt students to support their assertions and interpretations.**
   - *How do you know that?*
   - *Which part of the text led you to that conclusion?*
7. **To direct students to respond to one another.**
   - *What do you think about the idea just presented by your classmate?*
   - *Do you agree or do you see the issue differently? Explain.*
   - *Can you think of another way to solve that problem?*
8. **To prompt students to investigate a thought process.**
   - *What are the assumptions that informed the design of this experiment?*
   - *What are the assumptions that these two arguments share?*
9. **To ask students to predict possible outcomes.**
   - *What might happen if this practice were to be outlawed?*
   - *What would be the result if a different set of assumptions were used to set up this experiment?*
   - *Would you get a different result?*
10. **To prompt students to connect and organize information.**
    - *How does this article shed light on the concept we studied last week?*
    - *Can you develop a graph or table that organizes this information in a helpful way?*
11. **To ask students to apply a principle or formula.**
    - *How does this principle apply to the following situation?*
    - *Who can suggest how we might use this new formula to solve the problems we examined at the start of class today?*
    - *Under what conditions is this equation not valid?*
12. **To ask students to illustrate a concept with an example.**
    - *Can you think of an example of this phenomenon, drawn from your research?*
    - *Can you point us to a specific part of the novel that led you to that conclusion?*
    - *Can you identify a painting or design that exemplifies that idea?*

Use Bloom's Taxonomy. Benjamin Bloom's *Taxonomy of Educational Objectives* (1956) provides another useful way to think about when and how to use questions in teaching. As the following table shows, Bloom identified six types of cognitive processes and ordered these according to the level of

complexity involved. Ideally, you should combine questions that require "lower-order thinking" (often "closed" questions) to assess students' *knowledge* and *comprehension* with questions that require "higher-order thinking" (often "open" questions) to assess students' abilities to *apply, analyze, synthesize*, and *evaluate*.

Asking Questions Based on Bloom's Taxonomy

Level of Complexity

Category	Definition	Question words	Example
Evaluation	Judgment, making value decisions about issues	Judge, appraise, evaluate, assess	How successful will President Bush's ownership society be in addressing the concerns of the lower-income elderly?
Synthesis	Combining ideas, Creating an original product	Compose, construct, design, predict	Design an experiment that will allow you to separate the components in this solution.
Analysis	Subdividing into component parts, determining motives	Compare, contrast, examine, analyze	Analyze the Supreme Court actions of the late nineteenth century in terms of Social Darwinism.
Application	Problem solving, applying information	Interpret, apply, use, demonstrate	Apply the law of supply and demand to explain the current increase in fruit prices.
Comprehension	Interpreting, paraphrasing	Restate, discuss, describe, explain	Describe the major differences between modern and postmodern art.
Knowledge	Memorizing, recalling information	Who, what, when? Define, recall, list	What are the main theories used in discussing different learning styles?

Refine your Questions. After teaching a class session, leading a help session, collecting an assignment, or administering an exam, take brief notes on which questions were most effective at achieving the goals you had set out and which questions led to answers that you did not expect. Keep these notes with your lecture notes or lesson plan and use them to refine your questions for the next time you will teach or meet with students.

Links and References for Asking Questions to Improve Learning

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Appendix H
Handout #7: Methods of Instruction (MOI):
Lecture, Demonstraton, Drill and Practice, and Practical Exercise

This handout describes the four primary methods of direct instruction used in Army classrooms: lecture, demonstration, drill and practice, and practical exercise. Each method is defined, its uses described, advantages and disadvantages listed, and tips, suggestions, and recommendations for when each method may be used described and explained.

Lecture (LE)

Definition. An oral presentation intended to present information about a particular subject within a limited time frame. Lectures delivered by talented speakers can be highly stimulating, and have proven to be a quick, cheap, and efficient way of introducing large numbers of learners to a particular subject. Voice, gestures, movements, facial expressions, and eye contact are all influential in capturing and holding the learners interest and increasing their retention. The presenter or instructor will also use questions to engage the learners.

Uses. Lectures are used to convey critical information, history, background, theories and equations. Interactive Lectures can be used to help students learn to analyze material, formulate hypotheses and evaluate solutions to problems—essentially to learn how to think. Many people are familiar with the term "Lecture" and understand its meaning to be a technique of one-way verbal communication from the speaker to the audience for the purpose of informing or transmitting information. However, in the interactive lecture students are not allowed to be passive. They are expected to provide comments, questions, and to participate.

Advantages

- Good way of reaching a large group at one time with a condensed, organized body of information.
- Best way to teach when faced with a very low instructor to student ratio.
- Can be used to supplement other methods of instruction.
- Can bring in guest speakers to serve as subject matter experts

Disadvantages

- It's a one-way "conversation." If used excessively, the lecture encourages "tuning out" rather than becoming engaged in the learning.
- It does not provide for the student's direct experience with the body of knowledge. Students are not actively involved with the learning activity.
- It's not the best way to ensure students retain information.

Tips for using the *Lecture* method of instruction

When planning and developing a lecture, focus on the content you want to teach, your target audience, and the context in which you plan to conduct it.

Content	Audience	Context
• What is your *message*? • What do you want them to remember?	• Who are you speaking to? • Why are they there? • What do they need to understand? • Are they familiar with the topic?	• Why are you speaking to *this* group at *this* time? • How large is your audience be? • How large is the room? • What audiovisual support will you have (or need)? • How much time are you allotted?

When lecturing, remember the following:

- Maintain good eye contact.
- Maintain a high degree of enthusiasm.
- Speak in a natural, conversational voice. Enunciate your words clearly.
- Emphasize important points by the use of gestures, repetition, and variation in voice inflection.
- Check student comprehension carefully throughout the presentation by watching the faces of the students and asking them questions.
- Use words, explanations, and visual illustrations the audience will understand. Speak to the level of your audience.
- Stimulate students to think. Think, as used here, refers to creative thinking, rather than to merely recalling of facts previously learned.

Demonstration (DM)

Definition. Performing an activity so that learners can observe how it is done in order to help prepare learner to transfer instruction and theory to practical application.

Uses. Helps people who learn by modeling others. Provides an opportunity for targeted questions and answers. Allows attention to be focused on specific details. This method of instruction shows how something is done. Some of its more important uses are to teach the following:

- Manipulative operations and procedures, e.g., how something is done;
- Equipment operations or functions, e.g., how something works;
- Safety procedures;
- Teamwork, e.g., how people work together to do something as a team;
- Principles, e.g., why something works;
- Workmanship standards.

Advantages

- The demonstration method makes explanations concrete by showing visually what the instructor is saying. The student sees the skill being performed and hears the explanation at the same time. This allows the student to relate the principles and theories to practical application.
- Students get to see how the task is performed to a standard. They see what "right" looks like.
- An important step in acquiring a new skill is learning the required steps in their proper sequence. The demonstration method is very effective in identifying the precise steps and fixing the exact sequence.
- Knowledge acquired through a lecture can be made more meaningful through a demonstration, and the highest level of understanding is achieved and reinforced through actual performance of the task.

Disadvantages

- Your demonstration must be flawless and made to appear easy so that all students will be confident of their ability to perform in a similar manner. This may require many hours of practice on your part before you are able to give a flawless lesson. Remember, your demonstration sets the standard.
- The effectiveness of your presentation depends on the student being able to see what you are working on. Demonstration may not be the optimal method of instruction for large groups or large pieces of equipment.
- This method consumes more time than the lecture method because of the time required to complete the demonstration itself and the time required for the students to practice, make mistakes, receive corrective guidance, and ultimately reach the skill level desired.
- The demonstration method requires a higher instructor/student ratio than other methods of instruction—not for the initial demonstration itself, but for the individual coaching and feedback required during the students' practice and execution of the task.

Tips for using the *Demonstration* method of instruction

- Learn the steps. If needed, refer to the appropriate task manual for the performance steps.
- Rehearse until the demonstration is smooth and flawless. If using a demonstrator, rehearse together so that you both remain in sync.
- Lay out the demonstration area so that it is efficient. Ensure students can see the demonstration regardless of where they are sitting. Move students so everyone has a clear line of sight, if necessary.
- Use the actual equipment whenever it is practical. It is best for the students to see the process performed on the actual equipment they will use. Check your equipment prior to the demonstration to ensure you have everything you need and that your equipment will function properly.
- Use the WHOLE-PART-WHOLE concept. First show them what the finished product looks like. Then break it down into smaller parts, thus giving a *step-by-step* detailed explanation of how to achieve the task in a logical sequence. Now put it all back together and, again, let them see the finished product.

Drill and Practice (DaP)

Definition. Drill and practice, like memorization, involves repetition of specific psychomotor or cognitive skills (e.g., addition and subtraction, spelling, marksmanship). The skills built through drill and practice should become the building blocks for more meaningful learning. Drill and practice may also be found in more sophisticated learning tasks that involve more than one learner (e.g., close order drill, movement formations, battle drills).

Uses. Drill and practice helps learners master materials at their own pace and can be used as a reinforcement tool. Effective use of drill and practice depends on the recognition of the type of skill being developed, and the use of the appropriate techniques to develop competency in that skill. This method allows for transfer of knowledge from working memory to long-term memory.

Advantages

- Students apply their knowledge and learn by doing. Excellent for developing foundational or procedural skills.
- Multiple (correct) repetitions allow students to develop precision (smoothness) in physical skills (psychomotor domain).
- Enhances retention and transfer of knowledge.

Disadvantages

- Requires more time to conduct than other methods of instruction. Insufficient time for practice is almost as bad as no time. More complex tasks require more repetitions for proficiency or mastery. Lack of equipment may adversely impact the learning.
- Requires close supervision. Incorrectly done repetitions require time to correct, and additional time to repeat until the standard is met. Instructors must correct sub-standard performance immediately.
- Pre-training (lectures, demonstrations) must be as clear as possible. Under-prepared students will have difficulty with the drill and practice.
- Drill and practice can be overdone, resulting in "burn out." Instructors must observe their students, and end the drill when students have "got it" or when it becomes apparent that they aren't going to achieve the standard in the available time.

Tips for using *Drill and Practice*

- Prepare students well. Make your explanations and demonstrations very clear. Check student understanding before moving to drill and practice. Correct misunderstandings early.
- If drilling procedures, begin step-by-step. Have students perform step 1, then stop to check their work. If a student does the step incorrectly, make corrections, and have him or her do it again. When all students have performed step 1 correctly, *then* move to step 2. (Another example of why *Drill and Practice* takes more time than other methods of instruction.) For follow-on repetitions, connect multiple steps (e.g., steps 1 and 2, then 3 and 4), and end with the full procedure.
- If possible, conduct drill and practice under job-like conditions. Doing so will increase the probability of retention and transfer. Ideally, the instruction should occur in an environment as close to the Operational Environment where the task or procedure will actually take place.

Practical Exercise (hands-on) (PE)

Definition. An activity in which the learner practices a new concept or process, usually following the observation of a demonstration from the instructor/facilitator, in order to master this process or concept.

Uses. Permits the learner to reinforce new learning. Contributes to physical independence or ability to acquire new skills. The most efficient way to learn to do something is to actually do it. This method of instruction is the best way for students to learn to perform the required action to the established standard in as close to the Operational Environment as possible.

Advantages

- As students work through the exercise, they learn the *what*, *how*, *when*, and *why*, of things with which they interact.
- Students will remember the material better, feel a greater sense of accomplishment when the task is completed, and be able to more easily transfer that experience to other learning situations.
- Students who have difficulty in the learning arena (classroom, training site, lab, simulator) may be more on task and engaged with the learning because they are part of the learning process and not just spectators.
- A hands-on approach requires students to become active participants instead of passive learners, thereby increasing the level and degree of learning.

Disadvantages

- Time consuming.
- Can be difficult if proper equipment and material are either expensive or unavailable.

Tips for using the *Practical Exercise* method of instruction

- Provide additional instruction and guidance only as required. Students should be allowed to work on their own as much as possible without unnecessary interruption, interference, or assistance. Interrupting students while they are working, or standing too close to them, can cause a loss in concentration. Even if the student is hesitant or pauses, leave him or her alone as long as the performance is correct. Proficiency comes with time. Do not hesitate, however, to interrupt if you see mistakes being made or a safety violation. Be sensitive to and aware of any potential risks associated with the practical exercise.
- Consider using student assistance. The need for a higher instructor/student ratio during the PE may be met by designating advanced students as assistant instructors. This technique challenges students who have already achieved the learning objective and provides additional assistance for students who need it. Exercise caution when using this technique, since it is essential that the students assisting are, in fact, knowledgeable and capable at the designated task or operation.
- Evaluate procedures. While the students are performing the practical exercise, evaluate their procedures as well as the end product. The students must use the procedures and steps you taught in the demonstration. This is the standard you have set for achieving the learning objective, so evaluate the performance in terms of time, quantity, and quality.
- It is the instructor's responsibility to critique each student's performance. Constructively critique the student's performance to point out problem areas as well as items being completed satisfactorily.

TRADOC Regulation 350-70, *Army Learning Policy and Systems*. 6 December 2011
Extract

6-27. Instructor/facilitator requirements

Instructor/facilitator knowledge and performance determine the quality of instruction. Table 6-9 lists instructor/facilitator requirements.

Table 6-9 Instructor/facilitator requirements

Requirements	Actions
1. Ensure/maintain professional subject matter proficiency	Maintain technical and tactical content expertise.
2. Conduct preparation	a. Prepare the learning environment. b. Thoroughly study and be well versed in the material, including the course outcomes/goals and standards that will be met prior to implementation. c. Make pen and ink changes to materials to customize and consciously integrate opportunities to develop attributes such as accountability, initiative, confidence, critical and creative thinking, and problem solving. d. Consider the impact of all interactions with students during activitie to ensure a collaborative and positive learning environment. e. Establish an environment where students are comfortable asking questions to increase learning proficiency.
3. Perform administrative requirements	a. Schedule personnel and students. b. Explain the graduation criteria and requirements to the students prior to start of instruction. c. Issue end-of-course critiques to students. d. Disenroll students who fail assessments after the number of assess/reinstruct/reassess cycles established for the given content. The number of allowable cycles is variable, based on method of instruction. Institutions must follow student dismissal policy and procedures as outlined in AR 350-1, paragraphs 3-14 and 7-14.
4. Manage learning environment	a. Address safety issues immediately. b. Ensure students comply with safety and environmental protection rules, regulations, laws, and course requirements. c. Manage the learning environment to ensure it is conducive to student learning.
5. Use required technologies.	Employ automated scheduling, learning management systems, and instructional technology as required.

6. Ensure learning standards are met.	Ensure standards are met and assessed during the course of instruction.
7. Develop attributes.	a. Provide opportunities for students to take initiative. b. Provide operational context and ask students "why" to cause thinking beyond immediate learning objectives. c. Provide opportunities to engage in problem solving activities in the learning environment. d. Create active learning in creative ways such as group competition to develop accountability. e. Focus on teaching the fundamentals.
8. Adhere to adult learning principles and promote active learning.	a. Support and guide the learning process. b. Foster, motivate, and facilitate active learning. c. Use learning products effectively for active learning.
9. Record keeping.	a. Maintain a learning implementation audit trail. b. Maintain course records.
10. Student assessment.	a. Provide continuous feedback to students in reference to their leader competency and performance. Feedback must be provided that is appropriate to the situation and enhances the transfer of learning, to include assessment of overarching problem-solving skills. b. Remain alert to students having difficulty and intercede as appropriate. This does not mean providing solutions during problem-solving activities as soon as students begin to struggle. In fact, for topic learning, there may not be a "schoolhouse solution." c. Routinely conduct classroom assessment techniques when conducting courses/events. d. Follow the assessment control measures set in place for the learning product.
11. Counseling.	Counsel students IAW FM 6-22, appendix B.
12. Evaluation.	a. Continuously evaluate course effectiveness and efficiency. b. Provide feedback to the institution as appropriate. c. Conduct AARs at the end of every learning block/module to document potential improvements of learning products.

TWENTY WAYS TO MAKE LECTURES MORE PARTICIPATORY

Lectures play a vital role in teaching. There will always be a place for lectures in the curriculum -- to give technical material or factual information, to provide structure to material or an argument, to display a method or example of how one thinks in a given field, or even to inspire and motivate students to explore further. At the same time, it often enhances both your presentation of the material and students' learning when students are able to participate in some way. When students engage actively with material, they generally understand it better and remember it longer.

Asking for student participation highlights the distinction between faculty covering material and students learning it. Student participation often results in covering less material during a semester. Yet it also can mean that students learn more material than in a traditional lecture course, because they truly grasp the fundamentals and have more chances to clear up confusion. Large numbers of students in class does not preclude interaction. The following list of ways to open up lectures to student participation have been used in classes of up to 1200 students, as well as in smaller groups.

Note: If you decide to invite student participation in lectures, consider beginning with the very first lecture, when norms and expectations for class are being established. It is more difficult to engage students in a large lecture class later if they are accustomed to being silent. If you decide to ask students to participate in lectures later in the term, give a short introduction or explanation about your change in strategy.

Beginning the lecture (or course)

1. Begin the course or the lecture with a question or questions which help you to understand what students are thinking. "What are some of the differences between clinical medicine and public health?" "How do we interpret medical research findings? For example, the response rate for one regimen is 23% and another treatment showed a 40% response rate. How can we interpret these numbers? What other information would we want to know?" "What would be a feminist perspective on contraceptive research?" "What are some examples of marginalized populations?" "What image do you have of people who have HIV or AIDS?"

2. Begin the course or the lecture by posing a problem and eliciting several answers or solutions from the students. The lecture can then go on to explore and build on the suggestions that emerge from the discussion. For example: "When you think about the definition of epidemiology, what possible applications of this methodology come to mind?" "What are some underlying biological factors for poor health status?" "What are some reasons people may not have health insurance?"

3. An interesting way to introduce topics you will cover in a course and to find out students' assumptions is to ask students to jot down answers to some questions on their own and then combine answers in a small group. Examples from a pre-course survey: "--List up to 10 major environmental disasters. --Name up to 10 health disorders in which environmental agents are causative; list the 10 etiologic agents. --Identify up to 10 national (U.S. or other) environmental laws and the problems they address. --Identify the kinds of data needed to characterize an environmental health hazard. --List the steps in quantitative risk assessment. Which steps require both epidemiology and biostatistics."

Inviting participation

4. Create an atmosphere that encourages student participation by using a conversational tone and not criticizing student questions or comments in front of the class. Students take a risk when they talk; you need to deal tactfully with their contributions. Your body language -- whether you hold yourself in a stiff or relaxed manner -- also influences student participation. Consider moving closer to the students rather than speaking from behind the podium. Explain your reasons for varying the traditional lecture style. Students more willingly participate in class if they understand the rationale behind an approach that may be unfamiliar.

5. If you want students to talk, look at them. Some teachers call on students. (Some teachers never call on students -- this is a matter of strong personal preference.) Asking students to speak in class is easier to do if they use name cards or if you have learned their names. This will encourage them to use each others' names as well; people are more likely to talk when they know each other. Some students will be too shy to speak in a large group, at least at first. If speaking in class is the norm and everyone is expected to do it, you can call on everyone in good faith (perhaps calling on better prepared --and bolder--students first, and asking easier questions later of the quieter students).

6. Invite challenges to your ideas. This can lead to lively debates and shows that students are thinking and engaging with the material. Also, invite questions. You may have to help students new to a field know how to challenge or question. One way to do this is to present different points of view on any given topic, and then state why you believe a certain view best accounts for the evidence. (Decide whether you are comfortable with interruptions or whether you want to have a question time at the end.)

7. When a student asks a question, instead of answering yourself, ask for an answer from other members of the class. In a large group, always repeat a question or paraphrase a response before going on, so that all students can hear and understand (this is especially important when students in the class do not speak English as a native language).

Punctuating the lecture with questions

8. Ask questions throughout the lecture, so that the lecture becomes more of a conversation. Asking students to raise their hands (for example, "What is the direction of the data: increasing? decreasing?") is easier than asking them to speak. Questions with surprising answers can engage students' interest (for example, "What is the probability that two people in this room have the same birthday?") Generally, questions are more evocative if you are not looking for one right answer. The most fruitful questions are thought-provoking and, often, counterintuitive. For example, when comparing health indicators of different countries, ask students to guess where the U.S. or their country of origin ranks. Discuss the link between socioeconomic status and health; ask students to predict changes over time. For example, "Do you think it has gotten better or worse in your country over the last twenty years?"

9. Pause in the lecture after making a major point. Show students a multiple-choice question based on the material you have been talking about. (Example: "If the incidence rate of tuberculosis (TB) increased due to an increase in immunocompromised AIDS patients, but the duration of tuberculosis infections remained the same, the prevalence of TB would a) increase, b) decrease, or c) not change.") Ask students to vote on the right answer, and then turn to their neighbors to persuade them of the answer within the space of two minutes (talking to a few people is easier than speaking up in a large group). When time is up, ask them to vote a second time. Usually far more students arrive at the correct answer when voting the second time.

10. If readings have been assigned for a class, refer to them so their purpose is clear. You may ask questions about the readings from time to time; individuals or groups might be asked ahead of time to prepare short presentations of their interpretations of the readings.

11. When using slides, maps, or handouts, ask students what they see before you tell them what you see. Use these devices to help students think about a problem as you introduce it. For example, show a map of where cases occurred during an epidemic. Ask the students, "As an investigator of the outbreak, what questions might you want to ask?" Show a table of data about a country (birth rate, death rate, population, per cent of population with heart disease, number of nurses per capita, money spent on health per capita, G.N.P., etc.) Ask, "What do these data tell us? Where would you begin to explore? What kinds of questions could we answer and how?"

Varying the format

12. To vary the traditional lecture format, ask students, by section, to make presentations, do role plays, illustrate a position dramatically, debate a point. Or, ask TAs to give short presentations on areas of their expertise. Then invite the whole class to discuss the points illustrated.

13. For debates in a large group, divide the room into two or four groups, assigning one role or position to each group. Have the groups caucus separately to develop their positions before the debate begins. For example, in discussing the positive and negative aspects of a policy approach or community health intervention, divide the room in half for split brainstorming sessions; one group focusing on the positive and the other focusing on the negative. If there is time, have the groups switch positions. Or use the format of public hearings, with one group representing those who have called the hearings, and other groups representing the different protagonists.

14. Use cases to exemplify the issues you want to convey, and conduct the class as a case discussion rather than as a lecture. Cases are particularly useful for practical, how-to teaching situations; for problem-solving or showing how experts solve problems; for situations in which there are a number of right answers; for integrating and applying complex information. In public health, cases can demonstrate policy and management problems, stimulate discussion of various ethical issues in health care, or provide realistic examples of the application of theory and particular methodologies of health care practice.

15. Stop the lecture and ask students to write for one or two minutes in response to a particular question. Then ask them to discuss the question. The writing will give everyone a chance to think about and articulate a response, and may enable broader participation.

16. Let students go to the board to write the results of work in a small group. For example, in the first part of class ask for the strengths and weaknesses of an intervention study. Then divide the room into groups, each with the task of designing a better study with the same exposure and outcome. Groups can go to the board (preferable to asking one student at a time to be at the front of the room) and a spokesperson can present the group's ideas.

Closing the lecture

17. Allow time for questions at the end of lecture. Ask if there are any questions or if students would like to have a point clarified. If your schedule permits, come early to lecture or stay late to answer questions and engage in discussion with students. If you are available five or ten minutes before and after class, some students will talk with you more readily, and you will get to know them and their thoughts. If beginning early and ending late creates a conflict for other colleagues assigned to lecture in the same room, talk with students in the halls before and after class.

18. Use lectures to set up problems or propose study questions for discussion that students are expected to prepare for lab or section. End the lecture with a provocative question. Ask the TAs to begin lab with a discussion of that problem or issue.

19. At the end of your lecture, or at any other appropriate stopping point, give students a one-question "quiz," based on the material just covered in the class. Ask them to answer the question collectively. Leave the room so that they can discuss the question for ten or fifteen minutes. Then return and have them report their answer; discuss with them the reasons for their choice.

20. Do a one-minute paper at the end of class. In this exercise, students write down what they consider (a) the main point of the class and (b) the main question they still have as they leave. You can use some of these questions to begin the next lecture, or students can be asked to bring them to section or lab. One advantage of this technique is that students may listen more carefully and review their notes thoughtfully.

Adapted from *Participatory Lectures*, Derek Bok Center for Teaching and Learning, 1992.
Revised for distribution at the Harvard School of Public Health, 1994. Comments and suggestions are welcome. Ellen Sarkisian

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Lesson 8

Practicum 2

No Handouts

Action: Demonstrate Direct Instruction instructional strategy during a 10-minute practicum
Conditions: Given learning activities, readings, peer and instructor feedback, reflection time, development time, and practical exercises.
Standards: The demonstration will include the following:
Identification of instructor characteristics
Effective communication techniques
Effective questioning techniques
Appropriate methods of instruction
A lesson plan or outline
Learning Domain - Level: None assigned
No JPME
Learning
Areas Supported: None

Lesson 9

Army Instructor as a Professional

ACTION: Describe the concept of a profession as it applies to Army instructors.
CONDITIONS: Using readings, references, learning activities and class notes.
STANDARDS: The description should include
The definition of a profession
The definition of a professional
The certification criteria of the Army Profession
LEARNING DOMAIN - LEVEL: None assigned
No JPME
LEARNING AREAS
SUPPORTED: None

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Lesson 9: The Army Instructor as a Professional
Appendix B: ADRP 1 (extract)

ADRP 1: Doctrine Supplement. *The Army Profession*. June 2015.

WHAT IT MEANS TO BE A PROFESSION—WHAT IT MEANS TO BE A PROFESSIONAL

1-2. A profession is a trusted, disciplined, and relatively autonomous vocation whose members—

- Provide a unique and vital service to society, without which it could not flourish.
- Provide this service by developing and applying expert knowledge.
- Earn the trust of society through ethical, effective, and efficient practice.
- Establish and uphold the discipline and standards of their art and science, including the responsibility for professional development and certification.
- Are granted significant autonomy and discretion in the practice of their profession on behalf of society.

THE UNITED STATES ARMY AS A MILITARY PROFESSION

1-10. The *Army Profession* is a unique vocation of experts certified in the ethical design, generation, support, and application of landpower, serving under civilian authority and entrusted to defend the Constitution and the rights and interests of the American people.

1-11. An *Army professional* is a Soldier or Army Civilian who meets the Army Profession's certification criteria in character, competence, and commitment.

1-12. The *Army Ethic* is the evolving set of laws, values, and beliefs, embedded within the Army culture of trust that motivates and guides the conduct of Army professionals bound together in common moral purpose.

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Lesson 9: The Army Instructor as a Professional
Appendix C: ADRP 6-22 (extract)

ADRP 6-22 *Army Leadership*. August 2012

CHARACTER AND ETHICS

3-33. Adhering to the principles the Army Values embody is essential to upholding high ethical standards of behavior. Unethical behavior quickly destroys organizational morale and cohesion—it undermines the trust and confidence essential to teamwork and mission accomplishment. Consistently doing the right thing forges strong character in individuals and expands to create a culture of trust throughout the organization.

3-34. Ethics indicate how a person should behave. Values represent the beliefs that a person has. The seven Army Values represent a set of common beliefs that leaders are expected to uphold and reinforce by their actions. The translation from desirable ethics to internal values to actual behavior involves choices.

3-35. Ethical conduct must reflect genuine values and beliefs. Soldiers and Army Civilians adhere to the Army Values because they want to live ethically and profess the values because they know what is right. Adopting good values and making ethical choices are essential to produce leaders of character. Leaders seen as abusive or toxic (such as intimidating and insulting subordinates) have higher rates of noncombatant mistreatment and misconduct in their units.

3-36. The Soldier's Rules codify the law of war and outline ethical and lawful conduct in operations (see AR 350-1). They distill the essence of the law of war, Army Values, and ethical behavior: Army leaders must consistently focus on shaping ethics-based organizational climates in which subordinates and organizations can achieve their full potential. Leaders who adhere to applicable laws, regulations, and unit standards build credibility with their subordinates and enhance trust with the American people they serve.

Character

ETHICAL REASONING

3-37. To be an ethical leader requires more than knowing the Army Values. Leaders must be able to apply them to find moral solutions to diverse problems. Ethical reasoning must occur during the operations process. Leaders consider ethics in planning, preparing, executing, and assessing operations.

3-38. Ethical choices may be between right and wrong, shades of gray, or two rights. Some problems center on an issue requiring special consideration of what is most ethical. Leaders use multiple perspectives to think about ethical concerns, applying the following perspectives to determine the most ethical choice. One perspective comes from the view that desirable virtues such as courage, justice, and benevolence define ethical outcomes. A second perspective comes from the set of agreed-upon values or rules, such as the Army Values or Constitutional rights. A third perspective bases the consequences of the decision on whatever produces the greatest good for the greatest number as most favorable.

3-39. Army leaders are expected to do the right things for the right reasons. It is why followers count on their leaders to be more than just technically and tactically proficient. They rely on them to make ethical decisions. Determining what is right and ethical can be difficult.

3-40. Ethical concerns are not new for leaders. Leaders should not intentionally issue vague or ambiguous orders or instructions to avoid responsibility in the event a subordinate commits misconduct.

Vague orders may foster a climate of indiscipline, permitting subordinates to act outside the framework of the Army Values in pursuit of mission accomplishment. Nothing is more dangerous from an ethical perspective and could do more harm to the reputation of the Army and its mission. Leaders have a responsibility to research relevant orders, rules, and regulations and to demand clarification of orders that could lead to criminal misinterpretation or abuse. Ultimately, Army leaders must accept responsibility for the consequences of their actions.

3-41. Ethical reasoning is complex in practice. If time allows in particularly ill-defined situations, using concepts from the Army Design Methodology (see ADRP 5-0) can help to frame the right problem and consider ethical implications in detail. Resolving ethical problems requires critical thinking based on the Army Values. No formula will work every time. By embracing the Army Values to govern personal actions, developing an understanding of regulations and orders, learning from experiences, and applying ethical reasoning, leaders will be better prepared to face tough decisions.

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Lesson 9: The Army Instructor as a Professional
Appendix D: AEAC Report, November 2012. Table 1

Table 1: Characteristics of Good Instructor/Facilitators

Characteristic	Example
Competence	Is knowledgeable of the content, critically views the content, and reflects on the knowledge
Confidence	Is able to communicate knowledge and able to provide logical rationale supporting a position
Integrity	Understands the necessity to uphold personal and Army values and teach these, through daily actions, to students
Initiative	Is a self-starter and can identify tasks to accomplish in a timely manner
Empathy	Is able to see and feel the world through students' eyes, and help students achieve the same as they engage in learning.
Sense of Community	Views self and learners as community of learners
Organized	Organizes information and materials thoughtfully and logically
Goal-Oriented	Establishes realistic goals for self and students

THE ARMY UNIVERSITY
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Lesson 9: The Army Instructor as a Professional
Appendix E: AEAC Report, November 2012
Chapter 3 - Training New and Current Instructor/Facilitators

Training New and Current Instructor/Facilitators

Successful training occurs as the result of developing and modifying learner schemas through cognition. Instructor training is no different. Understanding and supporting the responsibilities of teaching, and its critical role in every mission, is as important as the process of transferring the information from an instructor to a student. The transition from instructor to instructor/facilitator depends on two factors. First is identifying facilitator competencies as expressed by relevant knowledge and techniques. Second is the designing and implementing a training and professional development program that will help instructor/facilitators, both those who are new and those currently performing as instructors, to develop and refine their facilitation skills. This chapter discusses design, facilitation, and classroom management competencies essential for high-quality instructor/facilitators and presents development and bridging models to instill those competencies.

Instructor/Facilitator Competencies

This list of instructor/facilitator competencies was compiled primarily from refereed journal articles and books on both classroom and online instruction spanning the past 30 years. The list is not exhaustive because such an endeavor is well beyond AEAC resources.

Most of the competencies are general and apply to most course content. With the knowledge that the Army is interested in developing problem-solving skills, instructor competencies that are unique to teaching problem solving are also included. After compiling the competencies, the Committee identified three major categories: design, facilitation, and classroom management. The competencies, organized by category, are presented in tables below. The first column is a statement of the competency, and the second is an example behavior of the competency.

Design Related Competencies

The first category is design and is concerned with the design of the instruction. Most of the competencies in the design category apply to work an instructor would accomplish before the beginning of class; this category does not refer to course design.

Table 2: Design Related Competencies

Competency	Example Behavior
Establishes the course content	This week's class will focus on . . .
Specifies the methods	We will divide into groups of 4 and . . .
Establishes time constraints	You will have 45 minutes to prepare a solution
Sets the climate for learning	During this brainstorming exercise you should feel free to voice all your ideas without value judgments from others

Table 2: Design Related Competencies (continued)

Competency	Example Behavior
Injects knowledge from diverse sources	If you read . . .
Engages students with abstract ideas that require active, purposeful engagement with complex abstracted phenomena	Use of case studies and role plays
Includes diverse and multiple perspectives	Use of debates and multiple information sources
Encourages learners to build meaning into issues and problems presented	Use of antithetical questions, reflection questions, and scaffold discussion
Helps learners understand different points of view	Brainstorming and role reversal questions
Designs engaging problems	Uses open ended, ill-structured problems with moderate degree of structuredness and difficulty
Asks questions of students	Includes product questions, process questions, subject-matter-related self-reference questions about student's experience, subject-matter- related self-reference questions asking student's preference
Provides variety and challenge in seatwork	Seatwork needs to include variety and an appropriate difficulty (challenge) level to sustain engagement
Uses a variety of instructional techniques	Review/Discuss, Inform/instruct new concepts, Demonstrates/Give new examples, Links new knowledge to prior knowledge, Asks questions to check for understanding, Reteach in small groups as needed, Oral drill and practice, Evaluates and summarizes
Identifies four to five main points for a lecture	Provides a framework and focus for students
Includes stage directions in lecture	Describes the instruction purpose and flow of the instruction, and where the instructor should be in the classroom
Captures student attention in the lecture introduction	Pose a problem, gives a relevant current event, anecdote, or statistic
Includes a plan to change lecture pacing every 20 minutes	Can change pacing by shifting from lecture to questions, discussion, small group work, and individual reflection
Visualizes the lecture information and provides appropriate representations	Maps, diagrams, charts, and illustrations are used to make the content concrete
Provides increasingly complex context in instruction	Use simplified context initially so learners can focus on critical new learning, then add complexity so students work on problems in a realistic setting

Table 2: Design Related Competencies (continued)

Competency	Example Behavior
Fades prompts over time	Provide needed prompting early instruction and then begin to fade prompts making students more self-reliant
Organizes before students arrive	Gather materials, sequence, arrange for copies, set up technology before class
Gives clear, concise directions	Outline instructions before class and either test on others or critically evaluate
Ensures that the purpose of instruction is clear to students	Provide students with explanative overview of instruction
Prepares instruction appropriate to the learning stage	Adapt the instruction to the learners' background and prior knowledge
Analyzes classroom tasks	Determines what to learners are to do and how they are to do it
Views the classroom from the students' perspective	Anticipates students' needs for information and guidance
Develops student accountability for work	Tracks student progress and informs students of accountability and penalties for missing deadlines
Organizes instruction	Provides good preparation; clarity about expectations, rules, and procedures; instruction in and opportunities to practice desired procedures and receive feedback; giving reminders about desired procedures at times when these are supposed to be implemented; consistent monitoring of students for compliance; and follow through with intervention when necessary
Provides special instruction for tasks that might be difficult or confusing, provides frequent cues to help students remember tasks they need to execute	Step by step instructions with information on what to look for and/or mnemonics to remember steps
Selects appropriate discussion method for group and setting	One-to-one; buzz group; snowball; group round; brainstorming; role play
Plans purposeful activity	Prepare for session, including goals and objectives
Balances friendly competition with peer cooperation	Friendly competition among individual participants may generate interest, but too much competition will stifle participation
Assesses learners' individual and group participation and learning	Compare learner participation to qualitative and quantitative assessment criteria

Table 2: Design Related Competencies (continued)

Competency	Example Behavior
Identifies authentic problem case	Well structured (worked examples); Ill structured (case studies); Structural analogs; Prior experiences; Alternative perspectives; simulations
Constructs macrocontext for problem	Provide information and perspectives about the problem
Sequences instruction from simple to complex	Consider difficult aspects of problem and build from simple to complex
Allows for errors and error recovery	Allow learner to try and test ideas and to resolve identified errors
Conveys problems in story form	Create memorable, easy to understand, and engaging story
Establishes the problem challenge	Require the learners to generate and justify solution
Considers data requirements to solve problem	Determine data to be either (a) embedded in problem case or (b) sought by learners
Constructs problem assessment	Assessment must be congruent with outcomes being taught
Implements problem assessment	Assess the learner's (a) ability to classify the problem, (b) problem-solving performance, (b) cognitive skills required to solve the problem, (c) ability to construct arguments to support the solutions
Evaluates problem assessment	Compare learner's response to assessment criteria

Facilitation Competencies

The second category is facilitation, which encompasses those competencies that address in-class actions of the instructor, both to deliver the instruction and facilitate learning. Facilitation is the implementation of the course design, but it also incorporates skills that require the instructors "to think on their feet." That is, when facilitating a discussion, it is impossible to predict what follow up questions or guidance will be necessary to keep the discussion on track and move it towards resolution. Thus, the instructor must make decisions during the class to make appropriate adaptations.

Table 3: Facilitation Competencies

Competency	Example Behavior
Seeks to reach consensus and understanding	Are Group 1 and Group 2's answers equivalent?
Draws participants into the discussion	SGT Jones, what do you think of the proposed solution?
Presents a question or task to start the discussion	Based on the scenario you just read, what do you think the next step should be?
Focuses the discussion on specific issues	Let's shift our thinking a little and consider…
Summarizes the discussion	We started with the scenario on … and discussed implications related to … Now, let's consider…
Diagnoses misconceptions	Let's reexamine what was said in the scenario—did they mention . . . ?
Acknowledges and reinforces student contributions	PVT Smith, that was a very good point
Confirms understanding through assessment and explanatory feedback	What other approach could we use with this task? If we first consider . . .
Responds to student inquiries	Answers student questions. Answers student emails in a timely manner
Counsels students on an individual basis to help them get the most out of the course	Provides study suggestions
Encourages student contributions	Asks questions, provides for small group discussions. Provides time for students to reflect and then discuss reflections
Gives positive, appropriate feedback	After correct answer, instructor provides process feedback, praise, affirms answer, asks a new question: SGT Jones, that was a well-constructed answer
Asks another student, rephrases, or provides clues after an incorrect example	Correct inaccuracies and move discussion forward
Asks another student if no response is given	Move stalled discussion forward by encouraging learners to participate
Uses instructional time effectively	Contemplate needed time and monitor progress
Keeps students actively engaged	Use questions, case studies, problems, and reflections to actively engage students
Uses eye contact effectively	Maintain eye contact with the class
Monitors student behavior	Provides extra cueing to help students remember important tasks

Table 3: Facilitation Competencies (continued)

Competency	Example Behavior
Shows "with-it"-ness	Ignores minor, incidents of inattention, but quickly corrects disruptive behaviors and prolong inattention
Fosters good social relationships	Structure activities in small group work to foster social relationships allowing each individual to make a unique contribution
Encourages active participation and draw in participants	Encourage all members of group to participate. Prompt students to engage, when needed
Demonstrates interest in and respect for learners	Share your skills and knowledge about topic, and respect opinions of group members
Facilitates learner demonstration of practice	Configure room or online spaces to allow learners to participate
Provides specific feedback to learners	Offer constructive suggestions and specific examples
Monitors efficacy of discussion and intervene when discussion activity no longer productive	Watch for one or more overly dominant voices and encourage participation through prompts
Identifies areas of agreement / disagreement within discussion	Point out a good example shared by one participant and ask others to respond
Encourages student ownership of problem solution	Learners learn by doing and self-monitoring their progress

Classroom Management Competencies

The third category, classroom management, addresses various competencies needed to create an efficient and effective learning environment.

Table 4: Classroom Management Competencies

Competency	Example Behavior
Establishes rules and etiquette	Avoid using negative tone in your responses
Keeps the class on track	That is an interesting topic, but it is taking us off task
Responds to technical concerns	If you want to add a graphic to your presentation, you must…
Manages the online environment	Instructor posts materials and discussion questions before the class begins
Addresses nonproductive behavior	Let's change our focus to the task and discuss social issues during the break
Provides an explanation of classroom rules	Describes procedures and rules at the beginning of a course
Establishes ground rules for discussion activity and participation	Tell learners it is acceptable to explore new ideas. Communicate the expectations of all participants and how learners will be assessed

Validating Competencies

These generic competencies were derived from a literature review. To ensure that they are valid and applicable within the military or for instructor/facilitators in a given career field or course, the Committee recommends they be validated.

One approach to validating the instructor competencies is by having experienced instructors and instructor supervisors rate the competencies. Raters answer four different questions on a three-point scale for each competency. After analyzing the data, the results identify major competencies and sub-competency required for job performance. The following briefly describes the process for conducting the validation.

1. Create the survey. The most efficient way to administer the survey is online through a service such as Survey Monkey.
2. Identify raters. A minimum of 25 and a maximum of approximately 100 raters are needed. The higher number of raters would increase the validity. Raters should be experienced instructors and supervisors of the instructors.
3. Analyze ratings. The data are generally analyzed with either a factor analysis or a cluster analysis.
4. Identify competencies. The results are interpreted to develop the final list of competencies and sub-competencies.

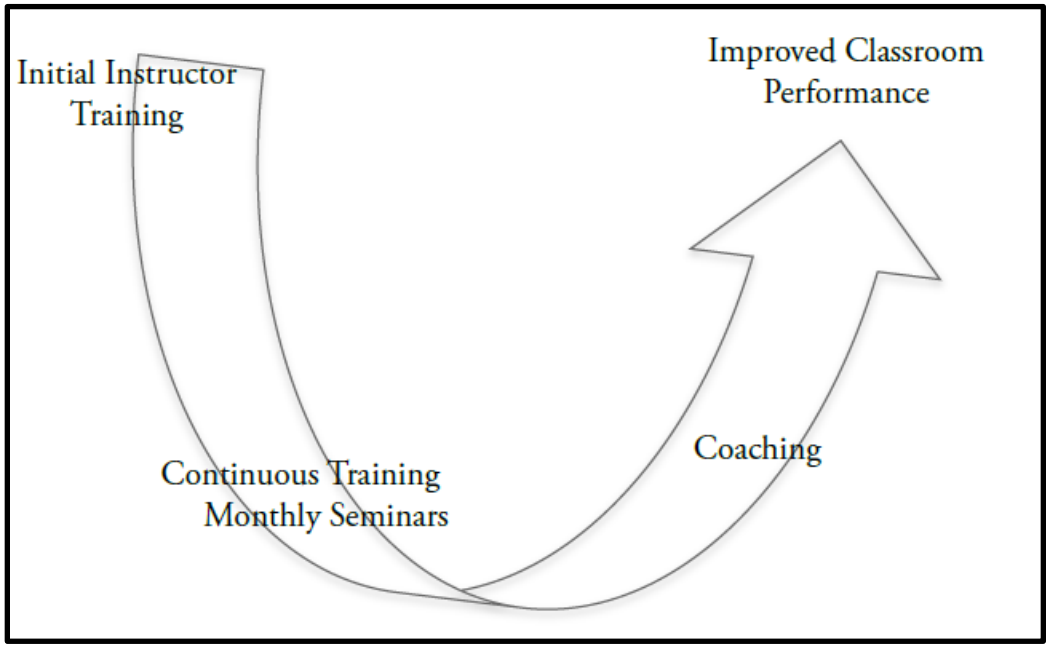
Training Instructor/Facilitators

The AEAC is aware of TRADOC's development of courses to train instructor/facilitators and to support their continued development. Many of these courses are listed in Appendix C, and the AEAC applauds these efforts. However, the committee is unaware of the coursework being brought together into integrated development and bridging models. Therefore, the following sections outline an approach to accomplishing that integration.

Instructor/Facilitator Development Model

The development model, illustrated in Figure 1 below, addresses the training of new instructors on how to use facilitation skills for online instruction and in the classroom. The subsequent paragraphs describe the components.

Figure 1: Development Model



Initial Training

This model recommends that new instructors attend a three-to-five day course that focuses on the development of facilitation skills. The course will focus on developing competencies in the three categories identified by this study: design, facilitation, and classroom management. The design of the class should include direct instruction, practice, and discussion. For example, many of the design skills (e.g., selecting a strategy and developing questions and problems) lend themselves to an efficient lecture format. Similarly, the instructor can model facilitation through discussion of the various concepts and procedures taught in the class. Ample time for practice should be included as an important component of the course. One option is that students first practice the skills in the instructor training classroom using microteaching strategies. A second type of strategy might be the facilitation of short (i.e., 30 minute) lessons in other classrooms or possibly with students from other courses outside the standard classroom time. These practice lessons could be recorded for self- reflection and feedback from an instructor and peers.

Continuous Training

There are too many facilitation competencies to develop adequately in the FIFC. New instructors should participate in the Bridging Model seminars offered to the experienced instructors (discussed in the next section).

Coaching

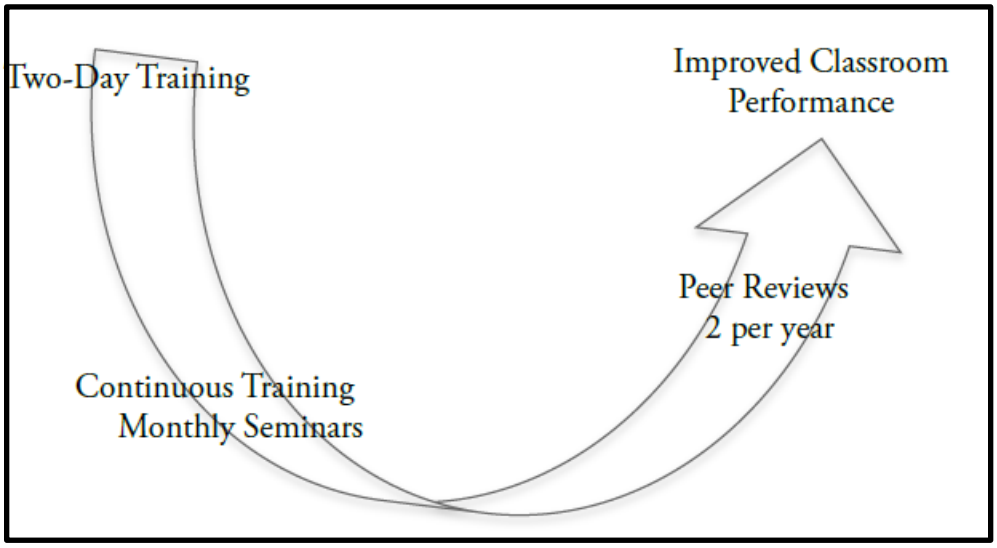
First-year instructors should participate in a monthly self-reflection and evaluation of their classroom teaching. This evaluation consists of three steps. First, the instructor selects a class session of approximately one hour or less to record. The instructor then reviews this recording, reflects on his/her strengths, and identifies one or two areas on which to focus for improvement. Third, the recording is reviewed by an experienced instructor who then meets with the first-year instructor and discusses the self-reflection, and both set one to three goals for improvement

during the next month/course.

Bridging Model for Current Instructors

The Bridging Model, illustrated in Figure 2, addresses the training of current instructors on how to use facilitation skills for online instruction and in the classroom. The following paragraphs describe the components.

Figure 2: Bridging Model



Continuous Training

This training consists of two phases. The first phase is a one or two day classroom course that focuses on the initial competencies needed to implement facilitation in the classroom. This phase will focus on design, classroom management, and basic facilitation competencies. The second phase of the training is a monthly seminar (also attended by those who have completed the training in the development model). These seminars can last between one and four hours. Each seminar will present one or two facilitation skills that are modeled by the instructor, participants, or both. These seminars should be planned for 6-12 times a year.

Peer Reviews

As part of an ongoing instructor development program, experienced instructors should participate in at least two yearly peer reviews, which consists of four steps. First, the instructor selects a class session of one hour or less to record. Second, the instructor reviews the recording and identifies one to three areas for improvement. Third, a peer instructor reviews the recording and notes areas for improvement. Fourth, the two instructors meet and discuss a plan for professional development.

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Lesson 9: The Army Instructor as a Professional
Appendix F: Guidance Concerning Works Protected By Copyright

GENERAL COUNSEL OF THE DEPARTMENT OF THE ARMY
104 ARMY PENTAGON
WASHINGTON, DC 20310-0104

SAGC 24 October 2013

MEMORANDUM FOR SEE DISTRIBUTION

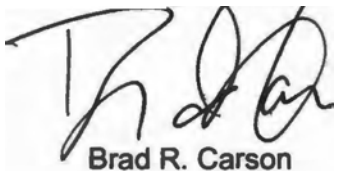
SUBJECT: Guidance Concerning Works Protected By Copyright

1. With the advent of the digital age, copying, transmitting and viewing movies, music, and other works has become ever increasingly easy. The ease with which a picture or a video can be duplicated, distributed, or posted to an internet site has often caused many to forget that works of original authorship are protected by copyright in the United States. Anyone copying, distributing, publicly displaying, or publicly performing a work of original authorship must be certain of his or her right to do so. This can be difficult as there is no requirement for copyright holders to mark their works to indicate their rights. Anyone exercising a right exclusively granted to the holder of a copyright may be subjecting themselves or the United States (U.S.) Government to a claim of copyright infringement if there is no legal right to the use the work.

2. Temptations abound: many presenters want to punch up their slides by including interesting material such as cartoons, movie clips, or musical accompaniment. There is no universal "Fair Use" exception to a copyright holder's rights merely because the user is an employee of the Federal Government or because the use involves training and is not-for-profit. Determining whether a use is a fair use or a use entitled to an exemption in the course of face-to-face teaching activities usually requires a detailed analysis—an analysis that a court may not agree reached the correct conclusion.

3. Copyright law is complex. Unless a work was published before 1923, is a work of the U.S. Government, or is a work known to be covered by a license to use the work in the manner specifically authorized, the use of such work may risk exposure to liability. Commanders, Directors, and supervisors at all levels are responsible for ensuring that those under their command or control do not infringe a third party's copyright. Unless you are 100% certain that a use of a work is permitted under copyright law, contact your servicing legal counsel for assistance before you use the work. Plan ahead: identifying copyright holders and attempting to acquire a license to use a work can be a time consuming process and may result in a request for a significant fee even for a one time use.

4. Copyright licenses involving the Government must comply with all applicable federal contract law; however, standard commercial copyright licenses frequently do not. Defense Federal Acquisition Regulation Supplement terms generally do not apply outside of technical data and software; therefore, when copyright licenses are obtained, care must be taken to understand and ensure compliance with all license terms. Ensuring compliance frequently includes educating persons who were not involved with the original acquisition of copyrighted works concerning the continuing license obligations. Care should also be taken to recognize that projects that involve obtaining media "content" or "products may implicitly require copyright licensing but may do so without ever mentioning copyright, intellectual property, or licensing.



Brad R. Carson

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Lesson 9: The Army Instructor as a Professional
Appendix G: TRADOC Reg 350-70 (extract)

TRADOC Regulation 350-70, *Army Learning Policy and Systems*
Copyrighted material requirements, para 5-6

a. A copyright is a legal right that exists in a work of creative expression such as text, drawings, photographs, graphic designs, architectural plans, motion pictures of every kind or technique, music, and sound recordings. The copyright exists at the moment a work is created and fixed in any medium capable of perceiving, reproducing, or communicating the work. A copyright is not the work itself, but the rights accruing to the copyright owner under the U.S. Copyright Act.

b. A copyright owner has the exclusive right to reproduce (make copies of), distribute, perform publicly, display publicly, or make certain modifications to (called a "derivative work") the copyrighted work. In general, unless permitted by a specific exception in the U.S. Copyright Act, none of these actions should be committed without permission of the copyright owner.

c. Department of the Army policy requires respecting the rights of copyright owners. The U.S. Government may be sued, and may be required to pay damages for copyright infringement. Prior to buying or using any work that might be subject to copyright protection, seek the advice of the installation staff judge advocate's office. "Fair Use" determinations regarding copyrighted material must only be made by an attorney.

d. For additional information on copyright and using social media, review the material at *http://www.copyright.gov* and *http://creativecommons.org/*.

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Lesson 9: The Army Instructor as a Professional
Appendix H: Copyright Basics

Copyright Basics

What Is Copyright?

Copyright is a form of protection provided by the laws of the United States (title 17, *U.S. Code*) to the authors of "original works of authorship," including literary, dramatic, musical, artistic, and certain other intellectual works. This protection is available to both published and unpublished works. Section 106 of the 1976 Copyright Act generally gives the owner of copyright the exclusive right to do and to authorize others to do the following:

- To reproduce the work in copies or phonorecords;
- To prepare derivative works based upon the work;
- To distribute copies or phonorecords of the work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
- To perform the work publicly, in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audio- visual works;
- To display the work publicly, in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audio- visual work; and
- In the case of sound recordings,* to perform the work publicly by means of a digital audio transmission.

In addition, certain authors of works of visual art have the rights of attribution and integrity as described in section 106A of the 1976 Copyright Act. For further information, see Circular 40, *Copyright Registration for Works of the Visual Arts.*

It is illegal for anyone to violate any of the rights provided by the copyright law to the owner of copyright. These rights, however, are not unlimited in scope. Sections 107 through 121 of the 1976 Copyright Act establish limitations on these rights. In some cases, these limitations are specified exemptions from copyright liability. One major limitation is the doctrine of "fair use," which is given a statutory basis in section 107 of the 1976 Copyright Act. In other instances, the limitation takes the form of a "compulsory license" under which certain limited uses of copyrighted works are permitted upon payment of specified royalties and compliance with statutory conditions. For further information about the limitations of any of these rights, consult the copyright law or write to the Copyright Office.

Who Can Claim Copyright?

Copyright protection subsists from the time the work is created in fixed form. The copyright in the work of authorship immediately becomes the property of the author who created the work. Only the author or those deriving their rights through the author can rightfully claim copyright.

*__NOTE__: Sound recordings are defined in the law as "works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work." Common examples include recordings of music, drama, or lectures. A sound recording is not the same as a phonorecord. A phonorecord is the physical object in which works of authorship are embodied. The word "phonorecord" includes cassette tapes, CDs, and vinyl disks as well as other formats.

In the case of works made for hire, the employer and not the employee is considered to be the author. Section 101 of the copyright law defines a "work made for hire" as:

1. a work prepared by an employee within the scope of his or her employment; or
2. a work specially ordered or commissioned for use as:
    - a contribution to a collective work
    - a part of a motion picture or other audiovisual work
    - a translation
    - a supplementary work
    - a compilation
    - an instructional text
    - a test
    - answer material for a test
    - an atlas

If the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire.

The authors of a joint work are co-owners of the copyright in the work, unless there is an agreement to the contrary.

Copyright in each separate contribution to a periodical or other collective work is distinct from copyright in the collective work as a whole and vests initially with the author of the contribution.

Two General Principles

- Mere ownership of a book, manuscript, painting, or any other copy or phonorecord does not give the possessor the copyright. The law provides that transfer of ownership of any material object that embodies a protected work does not of itself convey any rights in the copyright.
- Minors may claim copyright, but state laws may regulate the business dealings involving copyrights owned by minors. For information on relevant state laws, consult an attorney.

Copyright and National Origin of the Work

Copyright protection is available for all unpublished works, regardless of the nationality or domicile of the author.

Published works are eligible for copyright protection in the United States if any one of the following conditions is met:

- On the date of first publication, one or more of the authors is a national or domiciliary of the United States, or is a national, domiciliary, or sovereign authority of a treaty party,* or is a stateless person wherever that person may be domiciled; or
- The work is first published in the United States or in a foreign nation that, on the date of first publication, is a treaty party. For purposes of this condition, a work that is published in the United States or a treaty party within 30 days after publication in a foreign nation that is not a treaty party shall be considered to be first published in the United States or such treaty party, as the case may be; or
- The work is a sound recording that was first fixed in a treaty party; or

- The work is a pictorial, graphic, or sculptural work that is incorporated in a building or other structure, or an architectural work that is embodied in a building and the building or structure is located in the United States or a treaty party; or
- The work is first published by the United Nations or any of its specialized agencies, or by the Organization of American States; or
- The work is a foreign work that was in the public domain in the United States prior to 1996 and its copyright was restored under the Uruguay Round Agreements Act (URAA). See Circular 38b, Highlights of Copyright Amendments Contained in the Uruguay Round Agreements Act (URAA-GATT), for further information.
- The work comes within the scope of a Presidential proclamation.

*A treaty party is a country or intergovernmental organization other than the United States that is a party to an international agreement.

What Works Are Protected?

Copyright protects "original works of authorship" that are fixed in a tangible form of expression. The fixation need not be directly perceptible so long as it may be communicated with the aid of a machine or device. Copyrightable works include the following categories:

1. literary works
2. musical works, including any accompanying words
3. dramatic works, including any accompanying music
4. pantomimes and choreographic works
5. pictorial, graphic, and sculptural works
6. motion pictures and other audiovisual works
7. sound recordings
8. architectural works

These categories should be viewed broadly. For example, computer programs and most "compilations" may be registered as "literary works"; maps and architectural plans may be registered as "pictorial, graphic, and sculptural works."

What Is Not Protected by Copyright?

Several categories of material are generally not eligible for federal copyright protection. These include among others:

- Works that have not been fixed in a tangible form of expression (for example, choreographic works that have not been notated or recorded, or improvisational speeches or performances that have not been written or recorded)
- Titles, names, short phrases, and slogans; familiar symbols or designs; mere variations of typographic ornamentation, lettering, or coloring; mere listings of ingredients or contents
- Ideas, procedures, methods, systems, processes, concepts, principles, discoveries, or devices, as distinguished from a description, explanation, or illustration
- Works consisting entirely of information that is common property and containing no original authorship (for example: standard calendars, height and weight charts, tape measures and rulers, and lists or tables taken from public documents or other common sources)

How to Secure a Copyright

Copyright Secured Automatically upon Creation

The way in which copyright protection is secured is frequently misunderstood. No publication or registration or other action in the Copyright Office is required to secure copyright. (*See following note.*) There are, however, certain definite advantages to registration. See "Copyright Registration" on page 7.

Copyright is secured automatically when the work is created, and a work is "created" when it is fixed in a copy or phonorecord for the first time. "Copies" are material objects from which a work can be read or visually perceived either directly or with the aid of a machine or device, such as books, manuscripts, sheet music, film, videotape, or microfilm. "Phonorecords" are material objects embodying fixations of sounds (excluding, by statutory definition, motion picture soundtracks), such as cassette tapes, CDs, or vinyl disks.

Thus, for example, a song (the "work") can be fixed in sheet music ("copies") or in phonograph disks ("phonorecords"), or both. If a work is prepared over a period of time, the part of the work that is fixed on a particular date constitutes the created work as of that date.

Publication

Publication is no longer the key to obtaining federal copy- right as it was under the Copyright Act of 1909. However, publication remains important to copyright owners.

The 1976 Copyright Act defines publication as follows:

> *"Publication" is the distribution of copies or phonorecords of a work to the public by sale or other transfer of ownership, or by rental, lease, or lending. The offering to distribute copies or phonorecords to a group of persons for purposes of further distribution, public performance, or public display constitutes publication. A public performance or display of a work does not of itself constitute publication.*

NOTE: Before 1978, federal copyright was generally secured by the act of publication with notice of copyright, assuming compliance with all other relevant statutory conditions. U.S. works in the public domain on January 1, 1978, (for example, works published without satisfying all conditions for securing federal copyright under the Copyright Act of 1909) remain in the public domain under the 1976 Copyright Act.
Certain foreign works originally published without notice had their copyrights restored under the Uruguay Round Agreements Act (URAA). See Circular 38b and see the "Notice of Copyright" section on page 4 for further information.
Federal copyright could also be secured before 1978 by the act of registration in the case of certain unpublished works and works eligible for ad interim copyright. The 1976 Copyright Act automatically extends to full term (section 304 sets the term) copyright for all works, including those subject to ad interim copyright if ad interim registration has been made on or before June 30, 1978.

A further discussion of the definition of "publication" can be found in the legislative history of the 1976 Copyright Act. The legislative reports define "to the public" as distribution to persons under no explicit or implicit restrictions with respect to disclosure of the contents. The reports state that the definition makes it clear that the sale of phonorecords constitutes publication of the underlying work, for example, the musical, dramatic, or literary work embodied in a phonorecord. The reports also state that it is clear that any form of dissemination in which the material object does not change hands, for example, performances or displays on television, is not a publication no matter how many people are exposed to the work. However, when copies or phonorecords are offered for sale or lease to a group of wholesalers, broadcasters, or motion picture theaters, publication does take place if the purpose is further distribution, public performance, or public display.

Publication is an important concept in the copyright law for several reasons:

- Works that are published in the United States are subject to mandatory deposit with the Library of

Congress. See discussion on “Mandatory Deposit for Works Published in the United States” on page 11.

- Publication of a work can affect the limitations on the exclusive rights of the copyright owner that are set forth in sections 107 through 121 of the law.
- The year of publication may determine the duration of copyright protection for anonymous and pseudonymous works (when the author’s identity is not revealed in the records of the Copyright Office) and for works made for hire.
- Deposit requirements for registration of published works differ from those for registration of unpublished works. See discussion on “Registration Procedures” on page 7.
- When a work is published, it may bear a notice of copy- right to identify the year of publication and the name of the copyright owner and to inform the public that the work is protected by copyright. Copies of works published before March 1, 1989, must bear the notice or risk loss of copyright protection. See discussion on “Notice of Copy- right” below.

Notice of Copyright

The use of a copyright notice is no longer required under U.S. law, although it is often beneficial. Because prior law did contain such a requirement, however, the use of notice is still relevant to the copyright status of older works.

Notice was required under the 1976 Copyright Act. This requirement was eliminated when the United States adhered to the Berne Convention, effective March 1, 1989. Although works published without notice before that date could have entered the public domain in the United States, the Uruguay Round Agreements Act (URAA) restores copyright in certain foreign works originally published without notice. For further information about copyright amendments in the URAA, see Circular 38b.

The Copyright Office does not take a position on whether copies of works first published with notice before March 1, 1989, which are distributed on or after March 1, 1989, must bear the copyright notice.

Use of the notice may be important because it informs the public that the work is protected by copyright, identifies the copyright owner, and shows the year of first publication.

Furthermore, in the event that a work is infringed, if a proper notice of copyright appears on the published copy or copies to which a defendant in a copyright infringement suit had access, then no weight shall be given to such a defendant’s interposition of a defense based on innocent infringement in mitigation of actual or statutory damages, except as provided in section 504(c)(2) of the copyright law. Innocent infringement occurs when the infringer did not realize that the work was protected.

The use of the copyright notice is the responsibility of the copyright owner and does not require advance permission from, or registration with, the Copyright Office.

Form of Notice for Visually Perceptible Copies

The notice for visually perceptible copies should contain all the following three elements:

1. The symbol © (the letter C in a circle), or the word “Copyright,” or the abbreviation “Copr.”; and
2. The year of first publication of the work. In the case of compilations or derivative works incorporating previously published material, the year date of first publication of the compilation or derivative work is sufficient. The year date may be omitted where a pictorial, graphic, or sculptural work, with accompanying textual matter, if any, is reproduced in or on greeting cards, postcards, stationery, jewelry, dolls, toys, or any useful article; and

3. The name of the owner of copyright in the work, or an abbreviation by which the name can be recognized, or a generally known alternative designation of the owner.

Example: © *2008 John Doe*

The "C in a circle" notice is used only on "visually perceptible copies." Certain kinds of works—for example, musical, dramatic, and literary works—may be fixed not in "copies" but by means of sound in an audio recording. Since audio recordings such as audio tapes and phonograph disks are "phonorecords" and not "copies," the "C in a circle" notice is not used to indicate protection of the underlying musical, dramatic, or literary work that is recorded.

Form of Notice for Phonorecords of Sound Recordings

The notice for phonorecords embodying a sound recording should contain all the following three elements:

1. The symbol ℗ (the letter P in a circle); and
2. The year of first publication of the sound recording; and
3. The name of the owner of copyright in the sound recording, or an abbreviation by which the name can be recognized, or a generally known alternative designation of the owner. If the producer of the sound recording is named on the phonorecord label or container and if no other name appears in conjunction with the notice, the producer's name shall be considered a part of the notice.

Example: ℗ *2008 A.B.C. Records Inc*.

NOTE: Since questions may arise from the use of variant forms of the notice, you may wish to seek legal advice before using any form of the notice other than those given here.

Position of Notice

The copyright notice should be affixed to copies or phonorecords in such a way as to "give reasonable notice of the claim of copyright." The three elements of the notice should ordinarily appear together on the copies or phonorecords or on the phonorecord label or container. The Copyright Office has issued regulations concerning the form and position of the copyright notice in the *Code of Federal Regulations* (37 *CFR* 201.20). For more information, see Circular 3, *Copyright Notice*.

Publications Incorporating U.S. Government Works

Works by the U.S. government are not eligible for U.S. copyright protection. For works published on and after March 1, 1989, the previous notice requirement for works consisting primarily of one or more U.S. government works has been eliminated. However, use of a notice on such a work will defeat a claim of innocent infringement as previously described provided the notice also includes a statement that identifies either those portions of the work in which copyright is claimed or those portions that constitute U.S. government material.

Example: © *2008 Jane Brown*

Copyright claimed in chapters 7–10, exclusive of U.S. government maps

Copies of works published before March 1, 1989, that consist primarily of one or more works of the U.S. government should have a notice and the identifying statement.

Unpublished Works

The author or copyright owner may wish to place a copyright notice on any unpublished copies or phonorecords that leave his or her control.

Example: Unpublished work © *2008 Jane Doe*

Omission of Notice and Errors in Notice

The 1976 Copyright Act attempted to ameliorate the strict consequences of failure to include notice under prior law. It contained provisions that set out specific corrective steps to cure omissions or certain errors in notice. Under these provisions, an applicant had five years after publication to cure omission of notice or certain errors. Although these provisions are technically still in the law, their impact has been limited by the amendment making notice optional for all works published on and after March 1, 1989. For further information, see Circular 3.

How Long Copyright Protection Endures

Works Originally Created on or after January 1, 1978

A work that was created (fixed in tangible form for the first time) on or after January 1, 1978, is automatically protected from the moment of its creation and is ordinarily given a term enduring for the author's life plus an additional 70 years after the author's death. In the case of "a joint work prepared by two or more authors who did not work for hire," the term lasts for 70 years after the last surviving author's death. For works made for hire, and for anonymous and pseudonymous works (unless the author's identity is revealed in Copyright Office records), the duration of copyright will be 95 years from publication or 120 years from creation, whichever is shorter.

Works Originally Created Before January 1, 1978, But Not Published or Registered by That Date

These works have been automatically brought under the statute and are now given federal copyright protection. The duration of copyright in these works is generally computed in the same way as for works created on or after January 1, 1978: the life-plus-70 or 95/120-year terms apply to them as well. The law provides that in no case would the term of copyright for works in this category expire before December 31, 2002, and for works published on or before December 31, 2002, the term of copyright will not expire before December 31, 2047.

Works Originally Created and Published or Registered before January 1, 1978

Under the law in effect before 1978, copyright was secured either on the date a work was published with a copyright notice or on the date of registration if the work was registered in unpublished form. In either case, the copyright endured for a first term of 28 years from the date it was secured. During the last (28th) year of the first term, the copyright was eligible for renewal. The Copyright Act of 1976 extended the renewal term from 28 to 47 years for copyrights that were subsisting on January 1, 1978, or for pre-1978 copyrights restored under the Uruguay Round Agreements Act (URAA), making these works eligible for a total term of protection of 75 years. Public Law 105-298, enacted on October 27, 1998, further extended the renewal term of copyrights still subsisting on that date by an additional 20 years, providing for a renewal term of 67 years and a total term of protection of 95 years.

Public Law 102-307, enacted on June 26, 1992, amended the 1976 Copyright Act to provide for automatic renewal of the term of copyrights secured between January 1, 1964, and December 31, 1977. Although the renewal term is automatically provided, the Copyright Office does not issue a renewal certificate for these works unless a renewal application and fee are received and registered in the Copyright Office.

Public Law 102-307 makes renewal registration optional. Thus, filing for renewal registration is no longer required to extend the original 28-year copyright term to the full 95 years. However, some benefits accrue to renewal registrations that were made during the 28th year.

For more detailed information on renewal of copyright and the copyright term, see Circular 15, *Renewal of Copyright*; Circular 15a, *Duration of Copyright*; and Circular 15t, *Extension of Copyright Terms*.

Transfer of Copyright

Any or all of the copyright owner's exclusive rights or any subdivision of those rights may be transferred, but the transfer of exclusive rights is not valid unless that transfer is in writing and signed by the owner of the rights conveyed or such owner's duly authorized agent. Transfer of a right on a nonexclusive basis does not require a written agreement.

A copyright may also be conveyed by operation of law and may be bequeathed by will or pass as personal property by the applicable laws of intestate succession.

Copyright is a personal property right, and it is subject to the various state laws and regulations that govern the ownership, inheritance, or transfer of personal property as well as terms of contracts or conduct of business. For information about relevant state laws, consult an attorney.

Transfers of copyright are normally made by contract. The Copyright Office does not have any forms for such transfers. The law does provide for the recordation in the Copyright Office of transfers of copyright ownership. Although recordation is not required to make a valid transfer between the parties, it does provide certain legal advantages and may be required to validate the transfer as against third parties. For information on recordation of transfers and other documents related to copyright, see Circular 12, *Recordation of Transfers and Other Documents*.

Termination of Transfers

Under the previous law, the copyright in a work reverted to the author, if living, or if the author was not living, to other specified beneficiaries, provided a renewal claim was registered in the 28th year of the original term.* The present law drops the renewal feature except for works already in the first term of statutory protection when the present law took effect. Instead, the present law permits termination of a grant of rights after 35 years under certain conditions by serving written notice on the transferee within specified time limits.

For works already under statutory copyright protection before 1978, the present law provides a similar right of termination covering the newly added years that extended the former maximum term of the copyright from 56 to 95 years. For further information, see circulars 15a and 15t.

*__NOTE__: The copyright in works eligible for renewal on or after June 26, 1992, will vest in the name of the renewal claimant on the effective date of any renewal registration made during the 28th year of the original term. Otherwise, the renewal copyright will vest in the party entitled to claim renewal as of December 31st of the 28th year.

International Copyright Protection

There is no such thing as an "international copyright" that will automatically protect an author's writings throughout the entire world. Protection against unauthorized use in a particular country depends, basically, on the national laws of that country. However, most countries do offer protection to foreign works under certain conditions, and these conditions have been greatly simplified by international copyright treaties and conventions. For further information and a list of countries that maintain copyright relations with the United States, see Circular 38a, *International Copyright Relations of the United States*.

Copyright Registration

In general, copyright registration is a legal formality intended to make a public record of the basic facts of a particular copy- right. However, registration is not a condition of copyright protection. Even though registration is not a requirement for protection, the copyright law provides several inducements or advantages to encourage copyright owners to make registration. Among these advantages are the following:

- Registration establishes a public record of the copyright claim.
- Before an infringement suit may be filed in court, registration is necessary for works of U.S.

origin.

- If made before or within five years of publication, registration will establish prima facie evidence in court of the validity of the copyright and of the facts stated in the certificate.
- If registration is made within three months after publication of the work or prior to an infringement of the work, statutory damages and attorney's fees will be available to the copyright owner in court actions. Otherwise, only an award of actual damages and profits is available to the copyright owner.
- Registration allows the owner of the copyright to record the registration with the U.S. Customs Service for protection against the importation of infringing copies. For additional information, go to the U.S. Customs and Border Protection website at *www.cbp.gov/xp/cgov/import*. Click on "Intellectual Property Rights."

Registration may be made at any time within the life of the copyright. Unlike the law before 1978, when a work has been registered in unpublished form, it is not necessary to make another registration when the work becomes published, although the copyright owner may register the published edition, if desired.

Registration Procedures

Filing an Original Claim to Copyright with the U.S. Copyright Office

An application for copyright registration contains three essential elements: a completed application form, a nonrefundable filing fee, and a nonreturnable deposit—that is, a copy or copies of the work being registered and "deposited" with the Copyright Office.

A copyright registration is effective on the date the Copyright Office receives all required elements in acceptable form, regardless of how long it takes to process the application and mail the certificate of registration. The time needed to process applications varies depending on the amount of material the Office is receiving and the method of application (see below).

Here are the options for registering your copyright, beginning with the fastest and most cost-effective method.

Option 1: Online Registration

Online registration through the electronic Copyright Office (eCO) is the preferred way to register basic claims for literary works; visual arts works; performing arts works, including motion pictures; sound recordings; and single serials. Advantages of online filing include

- a lower filing fee
- fastest processing time
- online status tracking
- secure payment by credit or debit card, electronic check, or Copyright Office deposit account
- the ability to upload certain categories of deposits directly into eCO as electronic files

NOTE: You can still register using eCO and save money even if you will submit a hard-copy deposit, which is required under the mandatory deposit requirements for published works. The system will prompt you to specify whether you intend to submit an electronic or a hard-copy deposit, and it will provide instructions accordingly.

Basic claims include (1) a single work; (2) multiple unpublished works if they are all by the same author(s) and owned by the same claimant; and (3) multiple published works if they are all first published together in the same publication on the same date and owned by the same claimant.

To access eCO, go to the Copyright Office website at *www.copyright.gov* and click on *electronic*

Copyright Office.

Option 2: Registration with Fill-In Form CO

The next best option for registering basic claims is the new fill-in Form CO. Using 2-d barcode scanning technology, the Office can process these forms much faster and more efficiently than paper forms completed manually. Simply complete Form CO on your personal computer, print it out, and mail it along with a check or money order and your deposit.

To access Form CO, go the Copyright Office website and click on *Forms*. Do not save your filled-out Form CO and reuse it for another registration. The 2-d barcode it contains is unique for each work that you register.

Option 3: Registration with Paper Forms

Paper versions of Form TX (literary works); Form VA (visual arts works); Form PA (performing arts works, including motion pictures); Form SR (sound recordings); and Form SE (single serials) are still available. They are not available on the Copyright Office website; however, staff will send them to you by postal mail upon request. Remember that online registration through eCO and fill-in Form CO (see above) can be used for the categories of works applicable to Forms TX, VA, PA, SR, and SE.

Types of Applications that Must Be Completed on Paper

Certain applications must be completed on paper and mailed to the Copyright Office with the appropriate fee and deposit. Forms for these applications include

- Form D-VH for registration of vessel hull designs
- Form MW for registration of mask works
- Form GATT for registration of works in which the U.S. copyright was restored under the 1994 Uruguay Round Agreements Act
- Form RE for renewal of copyright claims, and Forms for group submissions, including Form GR/PPh/ CON (published photographs); Form GR/CP (contribu- tions to periodicals); Form SE/Group (serials); and Form G/DN (daily newspapers and newsletters)

To access these forms, go to the Copyright Office website and click on *Forms* or call the Copyright Office. Informational circulars about these types of applications and current registration fees are available on the Copyright Office website or by phone.

NOTE: Complete the application form using black ink pen or type. You may photocopy blank application forms. However, photocopied forms submitted to the Copyright Office must be clear, legible, on a good grade of 8 1/2 x 11" white paper suitable for automatic feeding through a photocopier. The forms should be printed, preferably in black ink, head-to-head so that when you turn the sheet over, the top of page 2 is directly behind the top of page 1. Forms not meeting these requirements may be returned resulting in delayed registration. You must have Adobe Acrobat Reader® installed on your computer to view and print the forms accessed on the Internet. Adobe Acrobat Reader may be downloaded free from *www.copyright.gov*.

Mailing Addresses for Applications Filed on Paper and for Hard-Copy Deposits

Library of Congress
U.S. Copyright Office
*101 Independence Avenue SE Washington, DC 20559-****

To expedite the processing of your claim, use the address above with the zip code extension for your type of work:

6222 for literary work
6211 for visual arts work
6233 for performing arts work
6238 for motion picture or other audiovisual work
6237 for sound recording
6226 for single serial issue

Filing a Renewal Registration

To register a renewal, send:

1. A properly completed application Form RE and, if necessary, Form RE Addendum, and
2. A nonrefundable filing fee* for each application and each Addendum. Each Addendum form must be accompanied by a deposit representing the work being renewed. See Circular 15, *Renewal of Copyright*.

*__NOTE__: For current information on fees, please check the Copyright Office website at *www.copyright.gov*, write the Copyright Office, or call (202) 707-3000.

Deposit Requirements

If you file an application for copyright registration online using eCO, you may in some cases attach an electronic copy of your deposit. If you do not have an electronic copy or if you must send a hard copy or copies of your deposit to comply with the "best edition" requirements for published works, you must print out a shipping slip, attach it to your deposit, and mail the deposit to the Copyright Office. If you use Form CO, you must mail the form, fee, and deposit in the same package. Send the deposit, fee, and paper registration form packaged together to:

Library of Congress
U.S. Copyright Office
101 Independence Avenue SE
*Washington, DC 20559-*****

To expedite the processing of your claim, use the address above with the zip code extensions found above.

The hard-copy deposit of the work being registered will not be returned to you.

The deposit requirements vary in particular situations. The general requirements follow. Also note the information under "Special Deposit Requirements" below.

- If the work is unpublished, one complete copy or phonorecord.
- If the work was first published in the United States on or after January 1, 1978, two complete copies or phonorecords of the best edition.
- If the work was first published in the United States before January 1, 1978, two complete copies or phonoecords of the work as first published.
- If the work was first published outside the United States, one complete copy or phonorecord of the work as first published.

When registering with eCO, you will receive via your printer a shipping slip that you must include with your deposit that you send to the Copyright Office. This shipping slip is unique to your claim to copyright and will link your deposit to your application. Do not reuse the shipping slip.

NOTE: It is imperative when sending multiple works that you place all applications, deposits, and fees in the same package. If it is not possible to fit everything in one package, number each package (e.g., 1 of 3; 2 of 4) to facilitate processing and, where possible, attach applications to the appropriate deposits.

Special Deposit Requirements

Special deposit requirements exist for many types of works. The following are prominent examples of exceptions to the general deposit requirements:

- If the work is a motion picture, the deposit requirement is one complete copy of the unpublished or published motion picture and a separate written description of its contents, such as a continuity, press book, or synopsis.
- If the work is a literary, dramatic, or musical work published only in a phonorecord, the deposit requirement is one complete phonorecord.
- If the work is an unpublished or published computer program, the deposit requirement is one visually perceptible copy in source code of the first 25 and last 25 pages of the program. For a program of fewer than 50 pages, the deposit is a copy of the entire program. For more information on computer program registration, including deposits for revised programs and provisions for trade secrets, see Circular 61, Copyright Registration for Computer Programs.
- If the work is in a CD-ROM format, the deposit requirement is one complete copy of the material, that is, the CD-ROM, the operating software, and any manual(s) accompanying it. If registration is sought for the computer program on the CD-ROM, the deposit should also include a printout of the first 25 and last 25 pages of source code for the program.

In the case of works reproduced in three-dimensional copies, identifying material such as photographs or drawings is ordinarily required. Other examples of special deposit requirements (but by no means an exhaustive list) include many works of the visual arts such as greeting cards, toys, fabrics, and oversized materials (see Circular 40a, *Deposit Requirements for Registration of Claims to Copyright in Visual Arts Material*); computer programs, video games, and other machine-readable audiovisual works (see Circular 61); auto- mated databases (see Circular 65, *Copyright Registration for Automated Databases*); and contributions to collective works. For information about deposit requirements for group registration of serials, see Circular 62, *Copyright Registration for Serials.*

If you are unsure of the deposit requirement for your work, write or call the Copyright Office and describe the work you wish to register.

Unpublished Collections

Under the following conditions, a work may be registered in unpublished form as a "collection," with one application form and one fee:

- The elements of the collection are assembled in an orderly form;
- The combined elements bear a single title identifying the collection as a whole;
- The copyright claimant in all the elements and in the col- lection as a whole is the same; and
- All the elements are by the same author, or, if they are by different authors, at least one of the authors has contributed copyrightable authorship to each element.

NOTE: A Library of Congress Control Number is different from a copyright registration number. The Cataloging in Publication (CIP) Division of the Library of Congress is responsible for assigning LC Control Numbers and is operationally separate from the Copyright Office. A book may be registered in or deposited with the Copyright Office but not necessarily cataloged and added to the Library's collections. For information about obtaining an LC Control Number, see the following website: *http://pcn.loc.gov/pcn.* For information on International Standard Book Numbering (ISBN), write to: *ISBN, R.R. Bowker, 630 Central Ave., New Providence, NJ 07974*. Call (877) 310-7333. For further information and to apply online, see *www.isbn.org*. For information on International

Standard Serial Numbering (ISSN), write to: *Library of Congress, National Serials Data Program, Serial Record Division, Washington, DC 20540-4160.* Call (202) 707-6452. Or obtain information from *www.loc.gov/issn.*

An unpublished collection is not indexed under the individual titles of the contents but under the title of the collection.

Filing a Preregistration

Preregistration is a service intended for works that have had a history of prerelease infringement. To be eligible for preregistration, a work must be unpublished and must be in the process of being prepared for commercial distribution. It must also fall within a class of works determined by the Register of Copyrights to have had a history of infringement prior to authorized commercial distribution. Preregistration is not a substitute for registration. The preregistration application Form PRE is only available online. For further information, go to the Copyright Office website at *www.copyright.gov*.

Effective Date of Registration

A copyright registration is effective on the date the Copyright Office receives all the required elements in acceptable form. The time the Copyright Office requires to process an application varies, depending on the amount of material the Office is receiving.

If you apply online for copyright registration, you will receive an email saying that your application was received.

If you apply for copyright registration using a paper application, you will not receive an acknowledgment that your application has been received (the Office receives more than 600,000 applications annually). With either online or paper applications, you can expect:

- A letter, telephone call or email from a Copyright Office staff member if further information is needed or
- A certificate of registration indicating that the work has been registered, or if the application cannot be accepted, a letter explaining why it has been rejected.

Requests to have certificates available for pickup in the Public Information Office or to have certificates sent by Federal Express or another mail service cannot be honored.

If you apply using a paper application and you want to know the date that the Copyright Office receives your material, send it by registered or certified mail and request a return receipt.

Corrections and Amplifications of Existing Registrations

To correct an error in a copyright registration or to amplify the information given in a registration, file with the Copyright Office a supplementary registration Form CA together with the filing. Form CA may be filed in the same manners as described above under "Registration Procedures." The information in a supplementary registration augments but does not supersede that contained in the earlier registration. Note also that a supplementary registration is not a substitute for an original registration, for a renewal registration, or for recording a transfer of ownership. For further information about supplementary registration, see Circular 8, *Supplementary Copyright Registration.*

Mandatory Deposit for Works Published in the United States

Although a copyright registration is not required, the Copyright Act establishes a mandatory deposit requirement for works published in the United States. See the definition of "publication" on page 3. In general, the owner of copyright or the owner of the exclusive right of publication in the work has a legal obligation to deposit in the Copyright Office, within three months of publication in the United States, two copies (or in the case of sound recordings, two phonorecords) for the use of the Library of Congress. Failure to make the deposit can result in fines and other penalties but does not affect copyright protection.

If a registration for a claim to copyright in a published work is filed online and the deposit is submitted online, the actual physical deposit must still be submitted to satisfy mandatory deposit requirements.

Certain categories of works are exempt entirely from the mandatory deposit requirements, and the obligation is reduced for certain other categories. For further information about mandatory deposit, see Circular 7d, *Mandatory Deposit of Copies or Phonorecords for the Library of Congress.*

Use of Mandatory Deposit to Satisfy Registration Requirements

For works published in the United States, the copyright law contains a provision under which a single deposit can be made to satisfy both the deposit requirements for the Library and the registration requirements. To have this dual effect, the copies or phonorecords must be accompanied by the prescribed application form and filing fee.

Who May File an Application Form?

The following persons are legally entitled to submit an application form:

- **The author.** This is either the person who actually created the work or, if the work was made for hire, the employer or other person for whom the work was prepared.
- **The copyright claimant.** The copyright claimant is defined in Copyright Office regulations as either the author of the work or a person or organization that has obtained ownership of all the rights under the copyright initially belonging to the author. This category includes a person or organization who has obtained by contract the right to claim legal title to the copyright in an application for copyright registration.
- **The owner of exclusive right(s).** Under the law, any of the exclusive rights that make up a copyright and any subdivision of them can be transferred and owned separately, even though the transfer may be limited in time or place of effect. The term "copyright owner" with respect to any one of the exclusive rights contained in a copyright refers to the owner of that particular right. Any owner of an exclusive right may apply for registration of a claim in the work.
- **The duly authorized agent of such author, other copyright claimant, or owner of exclusive right(s).** Any person authorized to act on behalf of the author, other copyright claimant, or owner of exclusive rights may apply for registration.

There is no requirement that applications be prepared or filed by an attorney.

Fees*

All remittances that are not made online or by deposit account should be in the form of drafts, that is, checks, money orders, or bank drafts, payable to *Register of Copyrights*. Do not send cash. Drafts must be redeemable without service or exchange fee through a U.S. institution, must be payable in U.S. dollars, and must be imprinted with American Banking Association routing numbers. International Money Orders and Postal Money Orders that are negotiable only at a post office are not acceptable.

If a check received in payment of the filing fee is returned to the Copyright Office as uncollectible, the Copyright Office will cancel the registration and will notify the remitter.

The filing fee for processing an original, supplementary, or renewal claim is nonrefundable, whether or not copyright registration is ultimately made. Do not send cash. The Copyright Office cannot assume any responsibility for the loss of currency sent in payment of copyright fees. For further information, read Circular 4, *Copyright Fees.*

***NOTE:** Copyright Office fees are subject to change. For current fees, please check the Copyright Office website at *www.copyright.gov*, write the Copyright Office, or call (202) 707-3000.

Certain Fees and Services May Be Charged to a Credit Card

If an application is submitted online, payment may be made by credit card or Copyright Office deposit account. If an application is submitted on a paper application form, the fee may not be charged to a credit card.

Some fees may be charged by telephone and in person in the office. Others may only be charged in person in the office. Fees related to items that are hand-carried into the Public Information Office may be charged to a credit card.

- **Records Research and Certification Section:** Fees for the following can be charged in person in the Office or by phone: additional certificates; copies of documents and deposits; search and retrieval of deposits; certifications; and expedited processing. In addition, fees for estimates of the cost of searching Copyright Office records and for searches of the copyright facts of registrations and recordations on a regular or expedited basis may be charged to a credit card by phone.
- **Public Information Office:** These fees may only be charged in person in the office, not by phone: standard registration request forms; special handling requests for all standard registration requests; requests for services provided by the Certifications and Documents Section when the request is accompanied by a request for special handling; search requests for which a fee estimate has been provided; additional fee for each claim using the same deposit; full term retention fees; appeal fees; Secure Test processing fee; short fee payments when accompanied by a Remittance Due Notice; in-process retrieval fees; and online service providers fees.
- **Public Records Reading Room:** On-site use of Copyright Office computers, printers, or photocopiers can be charged in person in the office.
- **Accounts Section:** Deposit Accounts maintained by the Accounts Section may be replenished by credit card. See Circular 5, *How to Open and Maintain a Deposit Account in the Copyright Office*.

NIE recordations and claims filed on Form GATT may be paid by credit card if the card number is included in a separate letter that accompanies the form.

Search of Copyright Office Records

The records of the Copyright Office are open for inspection and searching by the public. Upon request and payment of a fee,* the Copyright Office will search its records for you.

For information on searching the Office records concerning the copyright status or ownership of a work, see Circular 22, *How to Investigate the Copyright Status of a Work*, and Circular 23, *The Copyright Card Catalog and the Online Files of the Copyright Office*.

Copyright Office records in machine-readable form cataloged from January 1, 1978, to the present, including registration and renewal information and recorded documents, are available for searching on the Copyright Office website at *www.copyright.gov*.

For Further Information

By Internet

Circulars, announcements, regulations, certain applications forms, and other materials are available from the Copyright Office website at *www.copyright.gov*.

By Telephone

For general information about copyright, call the Copyright Public Information Office at (202) 707-3000. Staff members are on duty from 8:30 am to 5:00 pm, eastern time, Monday through Friday, except federal holidays. Recorded information is available 24 hours a day. If you want to request paper application forms or circulars, call the Forms and Publications Hotline at (202) 707-9100 and leave a recorded

message.

By Regular Mail

Write to:

Library of Congress
Copyright Office-COPUBS
101 Independence Avenue SE
Washington, DC 20559-6304

For information on other copyright-related publications, read Circular 2, *Publications on Copyright.*

The Copyright Public Information Office is open to the public 8:30 am to 5:00 pm Monday through Friday, eastern time, except federal holidays. The office is located in the Library of Congress, James Madison Memorial Building, 101 Independence Avenue SE, Washington, DC, near the Capitol South Metro stop. Staff members are available to answer questions, provide circulars, and accept applications for registration. Access for disabled individuals is at the front door on Independence Avenue SE.

The Copyright Office is not permitted to give legal advice. If information or guidance is needed on matters such as disputes over the ownership of a copyright, suits against possible infringers, the procedure for getting a work published, or the method of obtaining royalty payments, it may be necessary to consult an attorney.

NOTE: The Copyright Office provides a free electronic mailing list, *NewsNet*, that issues periodic email messages on the subject of copyright. The messages alert subscribers to hearings, deadlines for comments, new and proposed regulations, new publications, and other copyright-related subjects of interest. *NewsNet* is not an interactive discussion group. Subscribe to the Copyright Office free electronic mailing list via the Copyright Office website at *www.copyright.gov*. Click on "Email updates." You will receive a standard welcoming message indicating that your subscription to *NewsNet* has been accepted.

U.S. Copyright Office ·
Library of Congress ·
101 Independence Avenue SE ·
Washington, DC 20559-6000 ·
www.copyright.gov

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Lesson 9: The Army Instructor as a Professional
Appendix I: How to Obtain [Copyright] Permission

How to Obtain Permission

One way to make sure your intended use of a copyrighted work is lawful is to obtain permission or a license from the copyright owner.

Permission is not required for every use of a copyrighted work, and not all unauthorized uses are infringing. But copyright law gives owners of copyrighted works a bundle of exclusive rights, including the right to reproduce their works or authorize others to reproduce them, subject to certain limitations defined in sections 107 through 122 of the copyright law. To determine if a particular use requires permission from a copyright owner, you need to evaluate whether one of these limitations applies to the use. The Copyright Office cannot grant permission to use copyrighted works.

In many situations, securing permission is the most certain way to ensure an intended use is not an infringement of the copyright owner's rights. For more information about limitations to copyright law, see FL 102, *Fair Use*.

First Step: Research Copyright Status

Once you determine that obtaining permission to use a copyrighted work is warranted, the first step is to research its copyright status.[1] Consult the location on a work or its packaging that displays a copyright notice (such as the copyright page of a book or the legal notice on a website). Many works will have a copyright notice, which helps to identify the owner of a work.

But use of a copyright notice to secure copyright protection is no longer required under U.S. law. For works published on or after March 1, 1989, use of the copyright notice is optional. So the absence of a notice does not mean a work can be freely copied, adapted, distributed, publicly displayed, or performed.

Also keep in mind that copyright ownership can be transferred after publication, so the owner specified in a copyright notice may not be the current owner. Only the current copyright owner of the exact material to be used can grant permission for its use.

Some works may contain material originally published elsewhere, which the copyright owner of the larger work obtained permission to publish. For clues about whether material included in a larger work may belong to someone other than the owner specified in the copyright notice, check to see if a work contains credits or an acknowledgment.

If a work does not contain a copyright notice, or you cannot locate the person or entity identified in the notice, contact the author or publisher of the work, who may control the rights or be able to refer you to the current copyright owner.

You may also want to consult Copyright Office records of registrations and transfers of ownership. Records created after December 31, 1977, are available on the Office's website, *www.copyright.gov*; pre-1978 records are searchable in the Copyright Office. Compilations of pre-1978 copyright registrations are also searchable at *http://archive.org/details/copyrightrecords*.

For more information about researching the copyright status of works, see Circular 22, *How to Investigate the Copyright Status of a Work*, available on the Office's website.

Next Step: Contact Copyright Owner

Once you have determined the identity of the copyright owner, you will need to contact that person to request permission to use the work.

Groups representing publishers report that delays in granting permissions often arise because copyright owners receive inaccurate or incomplete information.

Listed below are some facts that copyright owners typically need to know to process permissions requests. The nature of your project and the material you want to use will determine the specific facts you will need to supply.

- Author's, editor's, translator's full name(s)
- Title and other details about the work, such as edition or volume number, if applicable
- Exact material to be used, giving the amount or portion(s) of the work to be used, with as much specificity as possible
- Copyright date of the work
- Use to be made of the material
- Audience to whom the work will be distributed or otherwise made available
- Whether or not the material is to be sold
- Name and nature of your organization (for example, non- or for-profit)
- Your name and contact details

Contact a copyright owner or author as far as possible in advance of when you want to use the material specified in your permissions request. The first person you contact may not control the rights and may have to refer you to the correct copyright owner, or may need time to research the extent to which permission can be granted.

If a publisher published the work, direct your inquiry to the publisher's rights and permissions department. Although many publishers grant usage rights to noncommercial organizations at no charge or a minimal charge, publishers may first have to determine whether they have the right to do so

You can also research contact details for individual authors through the Copyright Office's records.

Note

[1]This document draws on Questions and Answers on Copyright for the Campus Community published in 2002 by the Association of American Publishers, the Association of American University Presses, the Copyright Clearance Center, the National Association of College Stores, and the Software and Information Industry Association.

U.S. Copyright Office
Library of Congress
101 Independence Avenue SE
Washington, DC 20559
www.copyright.gov

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Lesson 9: The Army Instructor as a Professional
Appendix J: Generic Request for Copyright Permission

REQUEST FOR COPYRIGHT PERMISSION	
To: XXXXXXXXX Location, State Zip-code	Date
POC Name:	Telephone Number:
POC Status: (Please Circle one) Student Instructor Course Author Other:_____	Email:

Request copyright permission be obtained for the following material, as specified:

1. Type of Material (Please mark appropriate block):

- ☐ Excerpt from a Book
- ☐ Newspaper/Magazine article
- ☐ Still Images (photos, maps, charts….)
- ☐ Film/Video
- ☐ Website _____
- ☐ Other Electronic Source (Describe) _____

2. Description of selection: (*required entries)

*a. Title of material: _____
b. Subtitle/Article Title: _____
*c. Creator (author, photographer, editor, producer….): _____
*d. Publisher: _____
e. Date of Publication: _____ f. ISBN/ISSN: _____
*g. Beginning Page Number: _____ *h. Number of Total Pages: _____
(Please provide length of segment for video or film clip requests instead of pages)

This section is required for course material requests only.

3. Copyrighted material will be used as indicated:

Program: _____ Term or Academic year: _____
Department _____ Course Number: _____ Number of copies to be reproduced: _____

4. Type of reproduction:

- ☐ Reprint/Photocopy (i.e. Handouts)
- ☐ Course Pack (Library Reserve)
- ☐ Classroom Presentation (Powerpoint/ film clip)
- ☐ Blackboard -# of students accessing website:_____
- ☐ Sharepoint -# of students accessing website:_____
- ☐ Other:_____

Please allow at least 3-4 weeks for permission documentation.
Please note that copyrights requiring a contract may take up to 60 additional days to process.

THE ARMY UNIVERSITY
Common Faculty Development
Instructor Course

Lesson 9: The Army Instructor as a Professional
Appendix L: Trust Handout (CAPE)

TRUST HANDOUT

AMERICA'S ARMY – OUR PROFESSION (AAOP) EDUCATION AND TRAINING

PROGRAM AUTHOR: CENTER FOR THE ARMY PROFESSION AND ETHIC (CAPE)
DATE PREPARED: 12 DECEMBER 2012
DATE REVISED: 18 APRIL 2014

Army professionals:

- Understand and maintain the Trust of their fellow professionals.
- Build Trust in relationships through candor, transparency, respect and consistency in their right actions and ethical behavior.
- Steward the Trust of the American people by sustaining the ethical and effective application of landpower.

Trust is assured reliance on the character, ability, strength, or truth of someone or something.

- It is the bedrock of our profession and the bedrock of our relationship with the Nation and the American people.
- Our professional responsibility is to preserve this earned trust. We do this by ensuring we maintain the remaining four essential characteristics of the profession:
  - Military Expertise
  - Honorable Service
  - Esprit de Corps
  - Stewardship of the profession

Internal to the Army, our individual trustworthiness creates strong bonds among Army professionals that serve as a vital organizing principle necessary for the Army to function as an effective and ethical profession:

- Trust between Soldiers;
- Trust between leaders and Soldiers;
- Trust between Soldiers and Army civilians; and,
- Trust between Soldiers, their Families, and the Army.

Army leadership is critical to establishing the institutional culture and climate of trust essential for mission command.

- Mission Command is the reliance on competence leaders of character and commitment to demonstrate their military expertise and to accomplish the mission, consistent with their commander's intent.
- The success of Mission Command depends on an Army culture of trust.

Leaders maintain the trust of the American people by upholding the Army Ethic and abiding by the accepted values and ethics to accomplish their assigned missions.

- The ***Army Ethic*** is the evolving set of laws, values, and beliefs, deeply embedded within the core of the profession's culture and practiced by its members to motivate and guide the conduct of individual members bound together in common moral purpose.
- The Army Ethic is the basis for our trust and Army professionals must understand how it guides trustworthy behavior.


The Framework of the Army Ethic
Legal Foundations
(codified)
Moral Foundations
Army as Profession
(Laws/values/norms for performance of collective institution)
Legal-Institutional
The U.S. Constitution
Title 5, 10, 32, U.S. Code
Treaties of which U.S. is party
Status of Forces Agreements
Law of Armed Conflict
Moral-Institutional
The U.S. Declaration of Independence
Just War Tradition
Trust Relationships of the Profession
Individual as Professional
(Laws/values/norms for performance of individual professionals)
Legal-Individual
Oath of:
Enlistment
Commission
Office
U.S. Code – Standards of Exemplary Conduct
UCMJ
Rules of Engagement
Soldier's Rules
Moral-Individual
Universal Norms:
Basic Rights
Golden Rule
Values, Creed & Mottos:
"Duty, Honor, Country"
NCO Creed, Civilian Creed
7 Army Values
Soldier's Creed, Warrior Ethos

RESEARCH FACT SHEET

Responses from the Force*

"What contributes to or detracts from the establishment of trust in your unit or organization?"

CONTRIBUTES TO TRUST:

Doing the Right Thing, Leading from the Front:

- ✔ "Being the example."
- ✔ "Just doing the right thing."

Transparency:

- ✔ "Good communication develops and facilitates trust."
- ✔ "Trust is built when transparency exists and honest decision making is used."

Display of Army Values:

- ✔ "Living and following the Army Values."
- ✔ "Trust is built when Leaders take the 'hard right.'"

DETRACTS FROM TRUST:

Lack of Values:

- ✔ "Leaders who do not live up to the Army Values."
- ✔ "Hypocrisy."
- ✔ "Toxic leadership."
- ✔ "Incompetence."
- ✔ "'Do as I say, not as I do.'"

Favoritism EO Issues:

- ✔ "Incompetence and 'good old boys' system."
- ✔ "Office politics, vendettas, and power plays."

No Accountability, Inconsistency:

- ✔ "'Passing the buck,' only for it to be placed right back in the Soldier's lap. No accountability at the Senior levels."
- ✔ "Constant change and constant re-setting of priorities detracts from trust."

*Over 3,200 comments were provided in the survey in these categories. The quotations are illustrative responses.

Army Profession Trust

Trust is the confidence and belief in the "competence, character, and commitment" of an individual, group, unit or organization to accomplish the mission. Trust is the foundation for success in all Army activities. The Army Profession Survey II, sent to over 225,000 Army professionals in all components (including the Army Civilian Corps) in November 2011, sought respondents' perspectives on the state of trust within the Army Profession. This section included the free response question: "What contributes to or detracts from the establishment of trust in your unit or organization?" Over 20,000 responded to the Survey, and this Fact Sheet provides a summary of the key findings.

Summary Findings

- Overall, 81% of the Army professionals surveyed expressed positive sentiments regarding the state of trust within the Army Profession.
- 97% of those surveyed confirmed that their professional loyalty is to the United States Constitution.
- 97% of Army professionals understand that doing what is right requires moral courage.
- Respondents (90%) agreed that the Army Values are consistent with their personal values.
- Army professionals believe there is a strong bond of trust between the Army and the Nation (96%).
- Over 90% agree that being a leader of character is the hallmark of an Army professional.
- A majority (60%) of respondents are positive about the state of trust within their units and organizations.
- Over 70% trust their unit and organizational leaders to make right decisions.
- When trust with unit leaders breaks down, there is a lack of consensus among Army professionals as to the principal cause (i.e., a lack of competence, character, or commitment).

Discussion Points

- What causes distrust? What can we do to address the problem?
- What can we do to develop trust in our units and organizations?
- Are there experiences you can share where specific decisions and actions fostered or diminished trust within your unit or organization?
- Discuss the comments in the column on the left.

Trust between Soldiers
Trust between Soldiers and Leaders
Trust between Soldiers, their Families and the Army
Trust between the Army and the American People

Lesson 10

Foundations of Instruction (Collaborative)

Action: Demonstrate the Collaborative/Interactive Instruction instructional strategy
Conditions: Given prior instruction, discussion, practice scenarios, feedback, and reflection.
Standards: The demonstration will include the following:
Facilitation of collaboration and interaction between learners
Facilitation of group development
Facilitation of group learning
Learning
Domain - Level: None assigned
No JPME Learning
Areas Supported:

Topic Discussion Overview

PURPOSE: Provide an overview of the leaderless discussion technique, buzz session.

OVERVIEW: Topic discussion.

1. **Brief Description**

A topic discussion is a group discussion of an assigned topic, issue, or problem in which no instructor or lesson facilitator is present and in which the content and course of the discussion is determined almost completely by the group members.

It is frequently used to "sub-group" large group sessions

Following topic discussions, recorders for the group discussion may be organized into a panel to report to the large group and discuss the results, resolve differences, and so forth.

2. **Instructional Objectives**

- Increased awareness of issues and problems
- Superficial insight into possible problem solutions
- Some cognitive learning of course content, when discussion is carefully controlled through introduction of advanced reading, discussion guides, and other content documents.

3. **Recommended Uses**

- To introduce problems or focus attention of group members on critical issues prior to a formal presentation such as a lecture, film, or demonstration.
- To develop tentative solutions after problems have been posed in a formal presentation.
- To develop insights into practical consequences and barriers to application following introduction of new methods or techniques by lecture, film, or demonstration.
- To reinforce learning through student exchange of ideas, as a supplement to formal training.

4. **Rationale**. The forces inherent in groups and spontaneous, learner-centered discussion will generate greater interest and involvement with a topic and will result in an increased sensitivity to issues and problems.

5. **Time Requirement**

Optimum – 45 minutes Maximum – 60 minutes Minimum – 30 minutes

NOTE: if groups are small (5-6 people and discussion is limited to one topic, issue, or problem, minimum allowable time might be reduced to 20 minutes. Time allocation of less than 20 minutes is not recommended except when the method is used to introduce a formal presentation. If used in conjunction with panel, allow an additional 30 minutes for panel discussion.

6. **Lesson Facilitator Requirements**

a. Lesson facilitator-to-learner ratio. Unlimited, since lesson facilitators need not be present for topic discussions. The role of the lesson facilitator is restricted to assignment of topics for discussion and to provision of guidance concerning procedures and organization of the discussion groups. Accordingly, one Lesson facilitator can supervise a number of groups simultaneously.

b. Content expertise

1) Required by the individual who develops discussion topics

2) Not essential, but helpful, for lesson facilitator who is responsible for organization and supervision of discussion groups.

c. Proficiency Requirements

1) Proficiency as a Lesson facilitator No special teaching skills required

2) Proficiency with the method

Knowledge is required of procedures for assigning discussion topics, for assigning personnel to groups, for providing guidance for conducting the discussion, and if the method is followed by panel discussion, of procedures for recording and reporting results of the discussion.

d. Experience requirements

1) Experience as a course instructor or facilitator is helpful but not required

2) Experience with the method is helpful but not essential.

7. **Student Requirement**

a. Number:

Optimum – 10 per group Maximum – 15 per group Minimum – 5 per group

NOTE: When using this method break a large group into sub-groups, total number of students that can be accommodated at one time is limited only by availability of facilities for holding small-group sessions. However, if Topic Discussion is followed by panel sessions, the number of small groups should be limited to six, with total number of students adjusted accordingly, in order to accommodate panel reports within allocated time.

b. Prior experience with this method is helpful but not required.

c. Prior knowledge or experience with content is helpful but not essential.

8. **Materials**

- Provide a brief description, or list, of topics, or issues to be discussed.
- Provide a brief list of procedures for conducting and participating in discussion. (optional)
- Provide instructions for recorders (one per group). (Optional – Use only if panel discussion will follow.)

9. **Facilities**

a. Ideal. Separate small room for each group. One chair for each student. One chalkboard, flip pad with easel, or overhead projector with screen per group

b. Minimal. One large room of sufficient area that groups can be separated so that discussions can be conducted without serious interruption. For example, one 50-student classroom will accommodate five 10-student groups when one group is place in each coroner and one placed in the center of the room. One chair for each student

10. **Student Preparation**

a. Student preparation is not essential if students possess experience or background pertinent to the topic, issue, or problem to be discussed.

b. Quality of the discussion is greatly enhanced when students are assigned relevant material for background reading or research prior to the discussion.

c. If appropriate reading material is not available, quality of the discussion is enhanced if

preceded or accompanied by a lecture, film, or other presentation designed to provide background information and to focus attention upon critical issues.

11. **Lesson Facilitator Preparation**

a. Planning is required of brief introductory remarks designed to focus attention of students on the discussion topic.

b. When Topic Discussion is used in conjunction with a formal presentation, the lesson facilitator, or some other individual, must prepare and present the appropriate lecture or demonstration.

c. Background reading will be helpful for introductory and summary remarks.

12. **Procedures for Use of Method**

a. Introduction of problems or issues prior to formal presentation:

1) Briefly introduce in general terms the topic to be discussed. Do not indicate desired conclusions or trends the discussion should take.

2) State general objectives of the session, e.g., "to identify issues," "to specify problems," "to focus on difficult problems in implementation," etc.

3) Facilitate the class concerning discussion procedures. If handout list of discussion procedures is to be used, this instruction can be general (e.g., statement of topics to be discussed, time permitted for discussion, etc.).

4) Hand out topic descriptions and, if used, list of discussion procedures.

5) If appropriate, divide class into discussion groups.

6) Assign groups to discussion rooms or areas.

7) Move groups to discussion rooms/areas.

8) Have groups begin discussion.

9) Alert each group five minutes before end of discussion period.

10) Recall groups and reassemble class.

11) Facilitator leads brief class discussion of groups' conclusions.

12) Conduct formal presentation.

b. Development of problem solutions or insights for application, after formal presentation -

1) State general objectives of the session- e.g., "to develop possible solutions to problems posed in the lecture," "to identify possible consequences or barriers to application of the techniques presented in the demonstration," "to obtain greater understanding of the topic through exchange of ideas concerning the issues that were raised during the lecture," etc.

2) Facilitate the class concerning discussion procedures. If handout list of discussion procedures is to be used, this instruction can be general (e.g., statement of topics to be discussed, time permitted for discussion, etc.). If the group session is to be followed by panel discussion, describe the role of the group recorder (to note main points of discussion and any conclusions reached by the group, and to represent group in later panel discussion) and instruct groups to select a recorder as soon as they convene.

3) Hand out topic descriptions and, if used, list of discussion procedures.

4) If appropriate, divide the class into groups.

5) Assign groups to discussion rooms or areas.

6) Groups move to discussion rooms/areas.

7) If appropriate, groups select recorders.

8) If appropriate, visit each group and hand out instructions to recorders.

9) Alert each group five minutes before end of discussion period.

10) Recall groups and reassemble class.

11) If panel discussion is not used, lead general class discussion of groups/ conclusions.

12) If panel discussion is used, assemble recorders at table or in chairs at front of class; lesson facilitator serves as moderator while recorders report groups' conclusions and discuss agreements or differences between them.

Lesson facilitator briefly summaries outcome of panel discussion and, if appropriate, relates panel's conclusions to content of formal presentation.

13. **References**

Bergevin, P., and Morris, D. (1954). *A Manual for Discussion Leaders and Participants.* Bloomington, Indiana: Community Services in Education.

Maier, N.R.F. (1954). *Problem Solving Discussions and Conferences.* New York: McGraw-Hill Book Co.

Brainstorming

Overview

PURPOSE: Provide an overview of the leaderless discussion technique, brainstorming.

OVERVIEW: Brainstorming.

1. **Brief Description**

   A brainstorming is a group discussion of an assigned topic, issue, or problem in which no instructor or lesson facilitator is present and in which the content and course of the discussion is determined almost completely by the group members.

   It is frequently used to "subgroup" large group sessions

   Following a brainstorming, recorders for the group discussion may be organized into a panel to report to the large group and discuss the results, resolve differences, and so forth.

2. **Instructional Objectives**

   - Increased awareness of issues and problems
   - Superficial insight into possible problem solutions
   - Increased awareness of diversity of viewpoints.

3. **Recommended Uses**

   - To focus attention of group members on critical issues for the purpose of generating ideas or solutions to help solve a problem.
   - To introduce issues or generate involvement when conducted prior to a formal presentation.
   - To provide an opportunity for the exchange of ideas following a formal presentation
   - To generate more effective learning by overcoming the formalities inherent in large classes.

4. **Rationale**.

   The forces inherent in groups and spontaneous, learner-centered discussion will generate greater interest and involvement with a topic and will result in an increased sensitivity to issues and problems.

5. **Time Requirement**

   Optimum – 15 minutes

   Maximum – 20 minutes

   Minimum – 10 minutes

6. **Lesson Facilitator Requirements**

   a. Lesson facilitator-to-learner ratio

      Unlimited, since lesson facilitators need not be present for a brainstorming. The role of the lesson facilitator is restricted to assignment of topics for brainstorming and to provision of guidance concerning procedures and organization of the brainstorming groups. Accordingly, one lesson facilitator can supervise a number of groups simultaneously.

   b. Content expertise

      1) Helpful for the individual who develops brainstorming topics

2) Not essential, but helpful, for lesson facilitator who is responsible for organization and supervision of brainstorming groups.

c. Proficiency Requirements

1) Proficiency as a lesson facilitator

No special teaching skills required

2) Proficiency with the method

Knowledge is required of the rules for the two phases of brainstorming, including the procedures for assigning brainstorming topics, for assigning personnel to groups, for providing guidance for conducting the brainstorming session.

d. Experience requirements

1) Experience as a course instructor or facilitator is helpful but not required

2) Experience with the method is helpful but not essential.

7. **Student Requirements**

a. Number

Optimum – 10 per group

Maximum – 15 per group

Minimum – 6 per group

NOTE:

When using this method break a large group into sub-groups, total number of students that can be accommodated at one time is limited only by availability of facilities for holding small-group session.

b. Prior experience with this method is helpful but not required.

c. Prior knowledge or experience with content is helpful but not essential.

8. **Materials**

Provide a brief description, or list, of topics, or issues to be discussed.

Provide a brief list of rules for each phase (optional).

9. **Facilities**

a. Ideal

Separate small room for each group

One chair for each student

One chalkboard, flip pad with easel, or overhead projector with screen per group

b. Minimal

One large room of sufficient area that groups can be separated so that discussions can be conducted without serious interruption. For example, one 50-student classroom will accommodate five 10-student groups when one group is place in each corner and one placed in the center of the room.

One chair for each student

10. **Student Preparation**

    a. Student preparation is not essential if students possess experience or background pertinent to the topic, issue, or problem to be discussed.

    b. Quality of the brainstorming is greatly enhanced when students are assigned relevant material for background reading or research prior to the discussion.

11. **Lesson Facilitator Preparation**

    a. Planning is required of brief introductory remarks designed to focus attention of students on the brainstorming topic.

    b. When brainstorming is used in conjunction with a formal presentation, the lesson facilitator, or some other individual, must prepare and present the appropriate lecture or demonstration.

    c. Background reading will be helpful for introductory and summary remarks.

12. **Procedures for Use of Method**

    a. Introduction of problems or issues prior to formal presentation:

        1) Conduct formal presentation if appropriate.

        2) Briefly introduce in general terms the topic to be brainstormed. Do not indicate desired conclusions or trends the brainstorming should take.

        3) State general objectives of the session, e.g., "to identify issues," or "to identify problems," etc.

        4) Facilitate the class concerning brainstorming procedures. If handout list of brainstorming procedures is to be used, this instruction can be general (e.g., statement of topics to be discussed, time permitted for discussion, etc.).

        5) Hand out brainstorming topic(s) and, if used, list of brainstorming procedures.

        6) If appropriate, divide class into discussion groups.

        7) Assign groups to discussion areas or rooms.

        8) Move groups to discussion rooms/areas.

        9) Have groups begin brainstorming session.

        10) Alert each group five minutes before end of brainstorming period.

        11) Recall groups and reassemble class.

        12) Facilitator leads brief class discussion of groups' conclusions.

        13) Conduct formal presentation.

    b. Development of problem solutions or identity of issues, after formal presentation -

        1) State general objectives of the session- e.g., "to develop possible solutions to problems posed in the lecture," "to identify possible consequences or barriers to application of the techniques presented in the demonstration," "to obtain greater understanding of the topic through exchange of ideas concerning the issues that were raised during the lecture," etc.

        2) Facilitate the class concerning discussion brainstorming instruction can be general (e.g., statement of topics to be discussed, time permitted for discussion, etc.).

        3) Hand out topic descriptions and, if used, list of phase rules.

4) If appropriate, divide the class into groups.
5) Assign groups to discussion rooms or areas.
6) Groups move to discussion rooms/areas.
7) If appropriate, groups select recorders.
8) If appropriate, visit each group and hand out instructions to recorders.
9) Alert each group five minutes before end of brainstorming period.
10) Recall groups and reassemble class.
11) If panel discussion is not used, lead general class discussion of groups/ conclusions.
12) If panel discussion is used:
    - assemble recorders at table or in chairs at front of class;
    - lesson facilitator serves as moderator while recorders report groups' conclusions and discuss agreements or differences between them.
13) Lesson facilitator briefly summaries outcome of panel discussion and, if appropriate, relates panel's conclusions to content of formal presentation.

13. **References**

Bergevin, P., and Morris, D. *A Manual for Discussion Leaders and Participants*, Community Services in Education, Bloomington, Indiana, 1954.

Maier, N.R.F. *Problem Solving Discussions and Conferences*, McGraw-Hill Book Co., New York, 1963.

Brainstorming: Key Points

Description

- Method of leaderless discussion
- Generates creative solutions to problems
- Has two distinct phases
  - Idea Generation
  - Idea Evaluation

Instructional Objectives

- Increase awareness of issues and problems
- Insight into possible problem solutions
- Increased awareness of diversity of viewpoints

Phase Rules Idea Generation

- There will be no criticism
- Far-fetched ideas help are desirable
- Many ideas help the process
- Flip-flop technique is helpful
- Piggyback technique is useful

Idea Evaluation

- Criticism of idea list is authorized
- Answer question/meet objective
- Attain group consensus

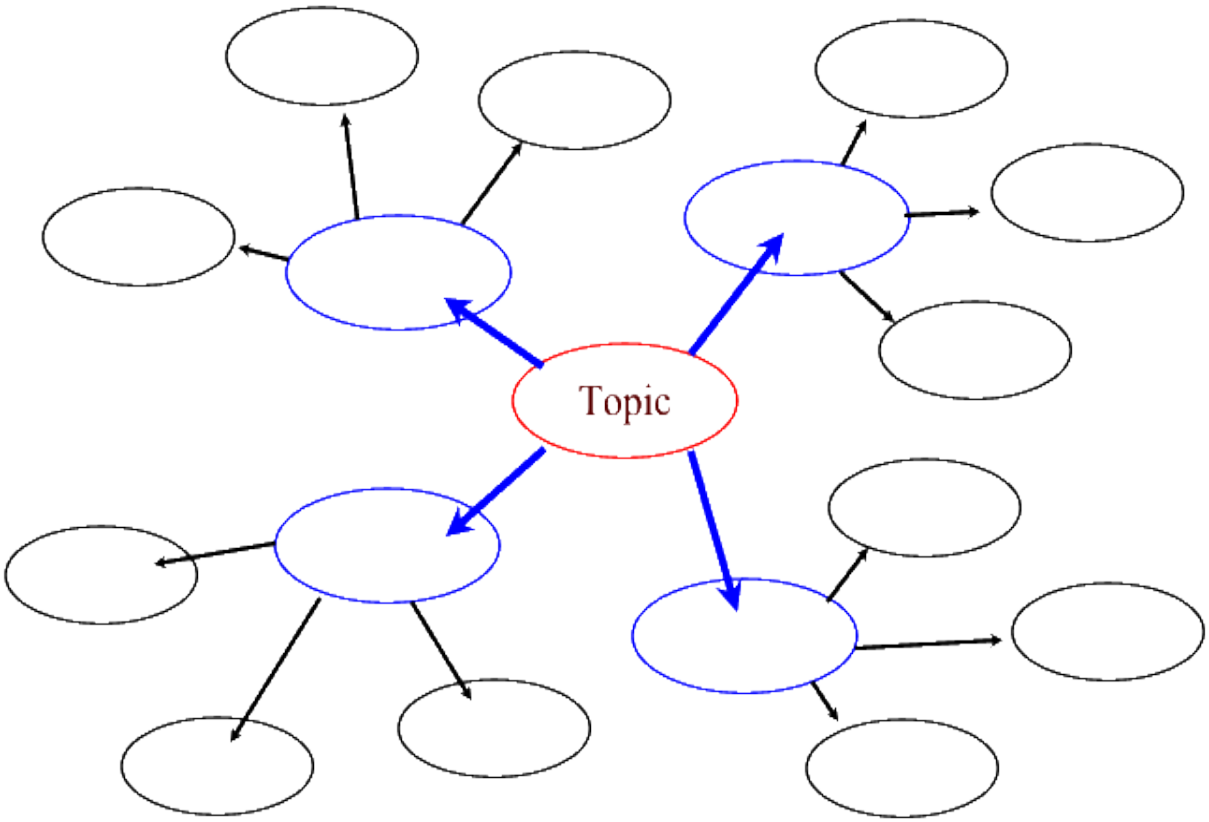
Facilitator should—

- State purpose clearly
- Allow one idea at a time
- Encourage participation
- Praise the **number** of ideas only!
- Keep group on course to solution
- Move phase processes at a quick pace

Brainstorming

Variations

1. **Best Idea Brainstorming**. After defining and clarifying the topic, each person writes down one idea on an index card. Then partners share their ideas with one another and together write a "best" idea. These partner ideas are then listed, discussed, culled, and prioritized by the full group.
2. **Post It Note Brainstorming**. Divide the full group in groups of three to five (form at least three different small groups). Each small group brainstorms and writes their ideas on Post It notes. After a set time, the full group reconvenes and the Post It notes are posted and grouped into categories, themes, or commonalities. The best idea is pulled out of each category by the full group.
3. **Round Robin Brainstorming**. After posing the question or topic, move clockwise around the table and have each person give one response (record the ideas). Keep going around the circle until everyone has passed. Then discuss the ideas given.
4. **Display Brainstorming**. Divide the full group into small groups. Each small group works at a flip chart and brainstorms. After a set time, groups settle on their best idea and subsequently "display" it at their station. The other groups then rotate from station to station and weigh the pros and cons of each displayed idea. After spending time at each station, the full group reconvenes and settles on the best idea(s).
5. **E-Mail Brainstorming**. Using e-mail the facilitator solicits ideas from individual team members. Replies are sent back to the facilitator who compiles them and sends them back out to the team members for further responses.
6. **Questioning Brainstorming**. The facilitator poses the topic to be brainstormed. Then the group asks questions about the topic. This is done in a rapid fire way without worrying about answers. The questions are recorded. After a set time for question generation, the group brainstorms by reacting to the questions.
7. **Cluster Brainstorming**. The group brainstorms by completing a cluster chart like the one below. The blue circles are key headings or categories.



Retrieved from http://www.workshopexercises.com/brainstorming.htm

Problem Solving Information

(Extracted from ATTP 5-0.1 Commander and Staff Officer Guide, 2011)

Problem Solving

11-1. The ability to recognize and effectively solve problems is an essential skill for leaders (see FM 6-22). Not all problems require lengthy analysis. For simple problems, leaders often make quick decisions based on their experiences. However, for problems involving a variety of factors, leaders need a systematic problem-solving process. The objective of problem solving is not just to solve near-term problems, but to also do so in a way that forms the basis for long-term success. The Army's approach to problem solving includes the following steps:

- Identify the problem.
- Gather information.
- Develop criteria.
- Generate possible solutions.
- Analyze possible solutions.
- Compare possible solutions.
- Make and implement the decision.

Identify the Problem

11-2. Recognizing and defining the problem is an important first step in problem solving. However, identifying the problem is extremely difficult without also gathering information. Commanders and staffs implement both steps at the same time to ensure enough information exists for them to identify the problem properly and effectively.

11-3. This step is crucial, as the actual problem may not be obvious at first. Therefore, leaders seek to understand the situation and determine what the problem is by clearly defining its scope and limitations. Leaders should allow sufficient time and energy to gather enough information and to define the problem clearly before moving on to other steps of the problem-solving process.

11-4. A problem exists when the current state or condition differs from a desired end state or condition. Leaders identify problems from a variety of sources. These include—

- Higher headquarters' directives or guidance.
- Decisionmaker's guidance.
- Subordinates.
- Personal observations.

11-5. When identifying the problem, leaders actively seek to identify its root cause, not merely the symptoms on the surface. Symptoms may be the reason that the problem became visible. They are often the first things noticed and frequently require attention. However, focusing on a problem's symptoms may lead to false conclusions or inappropriate solutions. Using a systematic approach to identifying the real problem helps avoid the "solving symptoms" pitfall.

11-6. To identify the root cause of a problem, leaders do the following:

- Compare the current situation to the desired end state.

- Define the problem's scope or boundaries.
- Answer the following questions:
- Who does the problem affect?
- What is affected?
- When did the problem occur?
- Where is the problem?
- Why did the problem occur?
- Determine the cause of obstacles between current and desired end state.
- Write a draft problem statement.
- Redefine the problem as necessary as staff acquires and assesses new information.

11-7. After identifying the root causes, leaders develop a problem statement—a statement that clearly describes the problem to be solved. When they base the problem under consideration upon a directive from a higher authority, it is best to submit the problem statement to the decision maker for approval. This ensures the problem solver has understood the decision maker's guidance before continuing.

11-8. Once leaders develop a problem statement, they make a plan to solve the problem. Leaders make the best possible use of available time and allocate time for each problem-solving step. Doing this provides a series of deadlines to meet in solving the problem. Leaders use reverse planning to prepare their problem solving timeline. They use this timeline to periodically assess progress. They do not let real or perceived pressure cause them to abandon solving the problem systematically. They change time allocations as necessary, but they do not omit steps.

GATHER INFORMATION

11-9. After completing the problem statement, leaders continue to gather information relevant to the problem. Gathering information begins with defining the problem and continues throughout the problem solving process. Leaders never stop acquiring and assessing the impact of new or additional information.

11-10. When gathering information, leaders define unfamiliar terms. Doing this is particularly important when dealing with technical information. Leaders consider the intended audience in deciding what to define. For example, a product for an audience that includes civilians may require definitions of all Army terms. A technical report prepared for a decision maker unfamiliar with the subject should include definitions the reader needs to know to understand the report.

11-11. Leaders gather information from primary sources whenever possible. Primary sources are people with first-hand knowledge of the subject under investigation, or documents produced by them. Methods of gathering information from primary sources include interviews, letters of request for specific information, and questionnaires.

11-12. Leaders require two types of information to solve problems: facts and assumptions. Fully understanding these types of information is critical to understanding problem solving. In addition, leaders need to know how to handle opinions and how to manage information when working in a group.

Facts

11-13. Facts are verifiable pieces of information or information presented that has objective reality. They form the foundation on which a solution to the problem is based. Regulations, policies, doctrinal publications, commander's guidance, plans and orders, and personal experience are just a few sources of facts.

Assumptions

11-14. An assumption is information accepted as true in the absence of facts; it is thought to be correct but cannot be verified. Appropriate assumptions used in decision making have two characteristics:

- They are valid, that is, they are likely to be true.
- They are necessary, that is, they are essential to continuing the problem-solving process.

11-15. If the process can continue without making a particular assumption, leaders discard it. So long as an assumption is both valid and necessary, leaders treat it as a fact. Problem solvers continually seek to confirm or deny the validity of their assumptions.

Opinions

11-16. When gathering information, leaders evaluate opinions carefully. An opinion is a personal judgment that the leader or another individual makes. Opinions cannot be totally discounted. They are often the result of years of experience. Leaders objectively evaluate opinions to determine whether to accept them as facts, include them as opinions, or reject them. Leaders neither routinely accept opinions as facts nor reject them as irrelevant—regardless of their source.

Organizing Information

11-17. Leaders check each piece of information to verify its accuracy. If possible, two individuals should check and confirm the accuracy of facts and the validity of assumptions. Being able to establish whether a piece of information is a fact or an assumption is of little value if those working on the problem do not know the information exists. Leaders share information with the decision maker, subordinates, and peers, as appropriate. A proposed solution to a problem is only as good as the information that forms the basis of the solution. Sharing information among members of a problem-solving team increases the likelihood that a team member will uncover the information that leads to the best solution.

11-18. Organizing information includes coordination with units and agencies that may be affected by the problem or its solution. Leaders determine these as they gather information. They coordinate with other leaders as they solve problems, both to obtain assistance and to keep others informed of situations that may affect them. Such coordination may be informal and routine. For an informal example, a squad leader checks with the squad to the right to make sure their fields of fire overlap. For a formal example, a division action officer staffs a decision paper with the major subordinate commands. As a minimum, leaders always coordinate with units or agencies that might be affected by a solution they propose before they present it to the decision maker.

DEVELOP CRITERIA

11-19. The next step in the problem-solving process is developing criteria. A criterion is a standard, rule, or test by which something can be judged—a measure of value. Problem solvers develop criteria to assist them in formulating and evaluating possible solutions to a problem. Criteria are based on facts or assumptions. Problem solvers develop two types of criteria: screening and evaluation.

Screening Criteria

11-20. Leaders use screening criteria to ensure solutions they consider can solve the problem. Screening criteria defines the limits of an acceptable solution. They are tools to establish the baseline products for analysis. Leaders may reject a solution based solely on the application of screening criteria. Leaders commonly ask five questions of screening criteria to test a possible solution:

- **Is it suitable?**—Does it solve the problem and is it legal and ethical?
- **Is it feasible?**—Does it fit within available resources?
- **Is it acceptable?**—Is it worth the cost or risk?

- **Is it distinguishable?**—Does it differ significantly from other solutions?
- **Is it complete?**—Does it contain the critical aspects of solving the problem from start to finish?

Evaluation Criteria

11-21. After developing screening criteria, the problem solver develops the evaluation criteria in order to differentiate among possible solutions. Well-defined evaluation criteria have five elements:

- **Short Title**—the criterion name.
- **Definition**—a clear description of the feature being evaluated.
- **Unit of Measure**—a standard element used to quantify the criterion. Examples of units of measure are U.S. dollars, miles per gallon, and feet.
- **Benchmark**—a value that defines the desired state or "good" for a solution in terms of a particular criterion.
- **Formula**—an expression of how changes in the value of the criterion affect the desirability of the possible solution. State the formula in comparative terms (for example, less is better) or absolute terms (for example, a night movement is better than a day movement).

See ATTP 5-0.1, Chap. 11 for further information on Evaluation Criteria

GENERATE POSSIBLE SOLUTIONS

11-25. After gathering information relevant to the problem and developing criteria, leaders formulate possible solutions. They carefully consider the guidance provided by the commander or their superiors, and develop several alternatives to solve the problem. Too many possible solutions may result in wasted time on similar options. Experience and time available determine how many solutions to consider. Leaders should consider at least two solutions. Limiting solutions enables the problem solver to use both analysis and comparison as problem-solving tools. Developing only one solution to "save time" may produce a faster solution but risks creating more problems from factors not considered.

11-26. When developing solutions, leaders generate options and summarize the solution in writing, sketches, or both writing and sketches.

Generate Options

11-27. Leaders must use creativity to develop effective solutions. Often, groups can be far more creative than individuals. However, those working on solutions should have some knowledge of or background in the problem area.

11-28. The basic technique for developing new ideas in a group setting is brainstorming. Brainstorming is characterized by unrestrained participation in discussion. While brainstorming, leaders—

- State the problem and make sure all participants understand it.
- Appoint someone to record all ideas.
- Withhold judgment of ideas.
- Encourage independent thoughts.
- Aim for quantity, not quality.
- Hitchhike ideas—combine one's thoughts with those of others.

At the conclusion of brainstorming, leaders may discard solutions that clearly miss the standards described by the screening criteria. If this informal screen leaves only one solution or none, then leaders need to generate more options.

Summarize the Solution in Writing and Sketches

11-29. After generating options, leaders accurately record each possible solution. The solution statement clearly portrays how the action or actions solve the problem. In some circumstances, the solution statement may be a single sentence (for example, "Provide tribal leader X with the means to dig a well"). In other circumstances, the solution statement may require more detail, including sketches or concept diagrams. For example, if the problem is to develop a multipurpose small-arms range, leaders may choose to portray each solution with a narrative and a separate sketch or blueprint of each proposed range.

ANALYZE POSSIBLE SOLUTIONS

11-30. Having identified possible solutions, leaders analyze each one to determine its merits and drawbacks. If criteria are well defined, to include a careful selection of benchmarks, analysis is greatly simplified.

11-31. Leaders use screening criteria and benchmarks to analyze possible solutions. They apply screening criteria to judge whether a solution meets minimum requirements. For quantitative criteria, they measure, compute, or estimate the raw data values for each solution and each criterion. In analyzing solutions that involve predicting future events, they use war-gaming, models, and simulations to visualize events and estimate raw data values for use in analysis. Once raw data values have been determined, the leader judges them against applicable screening criteria to determine if a possible solution merits further consideration. Leaders screen out any solution that fails to meet or exceeds the set threshold of one or more screening criteria.

11-32. After applying the screening criteria to all possible solutions, leaders use benchmarks to judge them with respect to the desired state. Data values that meet or exceed the benchmark indicate that the possible solution achieves the desired end state. Data values that fail to meet the benchmark indicate a poor solution that fails to achieve the desired end state. For each solution, leaders list the areas in which analysis reveals it to be good or not good. Sometimes the considered solutions fail to reach the benchmark. When this occurs, the leader points out the failure to the decision maker.

11-33. Leaders carefully avoid comparing solutions during analysis. To do so undermines the integrity of the process and tempts problem solvers to jump to conclusions. They examine each possible solution independently to identify its strengths and weaknesses. They are also careful not to introduce new criteria.

COMPARE POSSIBLE SOLUTIONS

11-34. During this step, leaders compare each solution against the others to determine the optimum one. Solution comparison identifies which solution best solves the problem based on the evaluation criteria. Leaders use any comparison technique that helps reach the best recommendation. The most common technique is a decision matrix (see Chapter 4).

11-35. Leaders use quantitative techniques (such as decision matrixes, select weights, and sensitivity analyses) to compare solutions. However, they are tools to support the analysis and comparison. They are not the analysis and comparison themselves. Leaders carefully summarize the quantitative techniques so the decisionmaker does not need to refer to an annex for the results.

MAKE AND IMPLEMENT THE DECISION

11-36. After completing their analysis and comparison, leaders identify the preferred solution. For simple problems, leaders may proceed straight to executing the solution. For more complex problems, a leader

may need to form a design team (see FM 5-0). If a superior assigned the problem, leaders prepare the necessary products (verbal, written, or both) needed to present the recommendation to the decisionmaker.

Before presenting the findings and a recommendation, leaders coordinate their recommendation with those affected by the problem or the solutions. In formal situations, leaders present their findings and recommendations to the decision maker as staff studies, decision papers, or decision briefings.

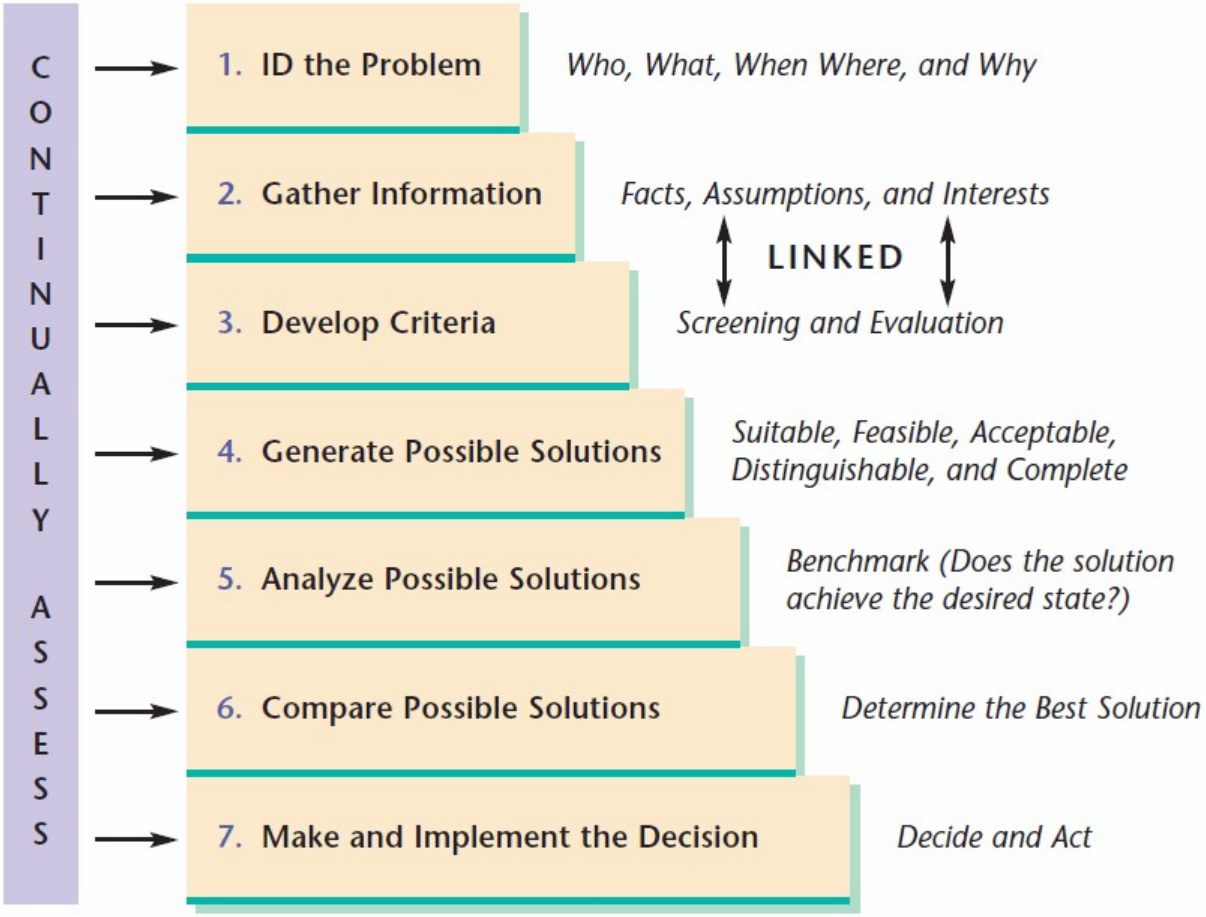
11-37. A good solution can be lost if the leader cannot persuade the audience that it is correct. Every problem requires both a solution and the ability to communicate the solution clearly. The writing and briefing skills a leader possesses may ultimately be as important as good problem-solving skills.

11-38. Based on the decision maker's decision and final guidance, leaders refine the solution and prepare necessary implementing instructions. Formal implementing instructions can be issued as a memorandum of instruction, policy letter, or command directive. Once leaders have given instructions, they monitor their implementation and compare results to the measure of success and the desired end state established in the approved solution. When necessary, they issue additional instructions.

11-39. A feedback system that provides timely and accurate information, periodic review, and the flexibility to adjust must also be built into the implementation plan. Leaders stay involved and carefully avoid creating new problems because of uncoordinated implementation of the solution. Army problem solving does not end with identifying the best solution or obtaining approval of a recommendation.

The Seven Problem Solving Steps

Both the TLP and the MDMP are based on the Army problem solving process. Army problem solving includes seven steps to help you reach well-reasoned solutions.



Borrowed from: http://www.uc.edu/armyrotc/ms2text/MSL_201_L04a_Intro_to_Problem_Solving.pdf

Committee Problem Solving: Key Points

Committee problem solving method is a group meeting method that stresses group and joint effort as it works toward a final product or solution to real and hypothetical problems.

Use to increase the students':

- Problem solving techniques.
- Skills in group decision making and fact finding.
- Knowledge about specific topics or problem areas.

Conference generalities:

- Does not require a subject-matter expert.
- Draws upon the experience and ideas of group members for possible ways of handling the problem or issues.
- May solve problems in one session or could extend over weeks or months.
- Solutions come from the group.

Students learn to:

- Attack problems.
- Gather data.
- Weigh alternatives.
- Derive solutions.
- Reconcile differing viewpoints.

Especially useful when training people that work to gather on a daily basis, particularly:

- Staffs.
- Departments.
- Sections.

Conference discussion facilitators:

- Need not be a subject-matter expert.
- Do not participate in discussion.

Conference members reach consensus by:

- Identifying the problem.
- Analyzing problem.
- Conducting fact finding.
- Developing solutions.
- Seeking agreement.

Role Playing

Role Playing: A method of portraying human interaction in imaginary situations in such a manner that realistic behavior is elicited.

- Derived from Psychodrama that can help participants become more interested and involved.
- Situation is presented to the group.
- Some members are asked to assume roles and enact the situation toward a resolution.
- Observers are used to observe behaviors of actors.
- The scene may be carried to a resolution or the instructor may stop it at some critical point.
- The group discusses the scene, observation of the audience, thoughts and feelings of actors and the group.
- Faulty diagnoses, alternative actions, and discrepancies between diagnoses and actions can be identified.

Objective most likely to be achieved

- Increased awareness of issues and problems, especially in interpersonal situations.
- Improved skill in diagnosing interpersonal situations.
- Improved skill in behaving effectively in interpersonal situations.
- Improved insight into possible problem solutions especially in interpersonal situations.
- Participants not only learn about the material, but learn how to integrate the knowledge in action, by addressing problems, exploring alternatives, and seeking novel and creative solutions.
- "Role playing is the best way to develop the skills of initiative, communication, problem-solving, self-awareness, and working cooperatively in a team" (Blatner, 2009, p.1).

Recommended Uses

- To introduce problems or focus attention of students upon critical issues prior to discussion.
- To provide experience diagnosing interpersonal behavior.
- To test group-developed alternative solutions after discussion of a problem.
- To provide practice and critique in specific methods and techniques (e.g., as in teaching conference leading, interviewing, selling, teaching).

Rationale

Opportunities to observe, experience, and practice actual behavior in contexts similar to reality enable students to translate knowledge so that it becomes significant in their own experience.

Extracted from: Olmstead, J. (1974). Small - Group Instruction: Theory and Practice. Alexandria, VA: Human Resources Research Organization.

Case Study

In general, the case study method involves the exposure of students to accounts of concrete situations with some temporal and developmental span in which a variety of factors are at work. The cases are descriptions (printed, tape-recorded, or filmed) of actual situations from real life. Students discuss them with the objective of discovering underlying principles, if any, and applying the principles to diagnosis and solution of the problems. Although case discussions may be held with large classes, much of the effectiveness of discussion is lost as size of class increases; the greatest learning seems to be achieved when discussion groups are small. For this reason, the case method is included in this analysis of facilitation methods.

A case discussion allows a group to review a printed or dramatized case which describes an actual situation, together with all surrounding facts, contributing factors, and incidental conditions.

Cases are presented to students for their considered analysis, open discussion, and final decision as to the action that should be taken. Because cases are lengthy and complex, they must be assigned for reading and analysis prior to the class meeting. At the option of the facilitator, written analyses of the cases may be required prior to the class discussion. The facilitator plays an active, but nondirective, role in stimulating discussion and encouraging mature analysis.

Composition of the case is a highly important and critical determinant of success with this method. Although single case-discussion sessions may be beneficial, maximum learning occurs from repeated exposure to analysis and discussion of a variety of cases.

The main purpose of the Case Study method is to get students to think.

Here are a few points to consider while conducting the case study method.

- The facilitator must focus on phrasing questions that will stimulate discussion and keep the discussion on the right track. It takes a great self-control for a facilitator to refrain from giving his or her own views.
- Students often feel frustrated at first when they find out that there are no specific conclusions, or answers. Some may find the idea of thinking for themselves to be new and even terrifying.
- This activity presents greater opportunities for the "eager beavers" to monopolize the discussion. Care should be taken to encourage the quite student to participate.
- Communication and thinking skills are enhanced by this method. Students must justify and defend their own views and, at the same time, they must try to comprehend and use the contributions of others.
- Students are placed in a group situation. It provides opportunities to work cooperatively and with satisfaction within the group, and gives some feeling for the importance of the group.

Abbreviated Printed Case Discussion

When an unabbreviated case method is strictly followed, lengthy advance preparation by students is inevitable. The requirement for full access to all facts and information in the case usually results in a fairly comprehensive printed document. Accordingly, mastery of the case requires students to engage in extensive preparation for in-class discussions. In some instances, such preparation may be desirable and, certainly, intensive analysis of a complex case should be conductive to learning. However, there may be preparation. One means for providing students with full access to necessary information and still avoiding the long preparation is the printed abbreviated case.

The most significant advantage of the abbreviate case is its brevity. Reading and abbreviated case seldom requires more than 15 minutes. If desired, cases can be assigned at the beginning of each period, thus assuring that all participants are adequately prepared. Furthermore, since the abbreviated case presents only major points in the reported situation, it becomes easier to keep discussions focused on central issues. This also simplifies the task of discussion leaders.

The principal disadvantages of the abbreviated case are that unimportant facts are eliminated and the minimal information which appears is presented in such a straightforward manner that students have no opportunity to practice sifting out essential elements from those that are not important. Thus, analysis may become too simple, particularly when compared with real situations in which an individual may have to weigh and discard a number of secondary factors before arriving at a solution of the central problem.

NOTE: The quality of the printed case is critical to this method. A teaching case is a carefully designed description of a problem situation, written specifically for the purpose of provoking systematic analysis and discussion. As such, it does not necessarily represent a complete description of all facts and events. The case must be composed with the objective of creating a challenging problem for the student and the outcome is never revealed—the case is brought to a point requiring decision and action, then it stops. Success of this method requires that cases be structured so they challenge the students, require mature analysis, and stimulate discussion.

Abbreviated Dramatized Case Discussion

One modification of the abbreviated case that should be mentioned is the dramatized case. In this form, a short case is presented through the medium of either tape recordings or film. The cases are usually open-ended; that is, they reach a critical point of conflict and end without resolution of the problem. The group then discusses possible issues and solutions.

The principal advantage of the dramatized case is that it communicates important facts without preliminary reading and with heightened dramatic effect. On the other hand, its effectiveness is usually confined to the presentation of dialogue situations. Thus, the oral form of presentation often restricts cases to human relations problems. Cases dealing with nonhuman aspects of problems, such as planning, organization, and technical problems, are difficult to portray.

Incident-Process Case Discussion

A modification of the case study is the Incident-Process method. In this method, a brief incident requiring adjudication and decision is presented to students. Then, the group must decide what additional information is required. The discussion leader, usually but not necessarily a course facilitator, has background and factual material that he or she furnishes only as the members of the group request specific items of information. If the information is not requested, the discussion leader never provides it. Thus, students may finally be required to decide a case on the basis of only partial information because they failed to ferret out everything needed to make a valid decision. After obtaining the desired information, each participant writes his or her decision and the supporting reasons for it. The decisions are presented publicly and debated, with pressure exerted by the leader to arrive at a unanimous conclusion. Another potential limitation is the traditional emphasis in role playing on behavior. Unless modified, role playing is weak in teaching about other elements, such as decision making. By combining case study with role playing, so that the most desirable elements of both are available, the student has the opportunity for learning in both the interpersonal and decision-making aspects of leadership. The students then hear the real decision and analyze the adequacy or inadequacy of their fact finding and decision making in contrast with it. Thus, over time and numerous cases, students learn to analyze brief incidents in terms of relevant facts and also to become skillful in obtaining these facts.

The Incident-Process method appears to be restricted to development for diagnostic skills. Although students seem to interact more realistically in trying to reach group decisions, there are not opportunities for studying and trying the actual skills of implementation in situations similar to those studied.

Lesson 11

Practicum 3

No Handouts

Action: Demonstrate the Collaborative/Interactive Instruction instructional strategy
Conditions: Given prior instruction, discussion, practice scenarios, feedback, and reflection
Standards: The demonstration will include the following:
Facilitation of collaboration and interaction between learners
Facilitation of group development
Facilitation of group learning
Learning Domain - Level: None assigned
No JPME Learning
Areas Supported: None

Glossary Abbreviations

AAR	After Action Review
ADLIC	Asynchronous Distributed Learning Instructor Course
AIB	Army Instructor Badge
ALMS	Army Learning Management System
APFT	Army Physical Fitness Test
AR	Army Regulation
ARMYU	Army University
ATDC	Advanced Training Developer Course
BAIB	Basic Army Instructor Badge
CFDP-IC	Common Faculty Development Program – Instructor Course
CFDP-DC	Common Faculty Development Program – Developer Course
CMP	Course Management Plan
CTLE	Center for Teaching and Learning Excellence
DA	Department of the Army
EIC	Evaluating Instructor Course
ELO	Enabling Learning Objective
ERB	Enlisted Record Brief
FDRP	Faculty Development and Recognition Program
FDP-1	Faculty Development Program - Phase I
FSDD	Faculty Staff Development Division
FTDC	Foundation Training Developer Course
IBSTPI	International Board of Standards for Training, Performance and Instruction
IDBC	Instructional Design Basic Course
IDRP	Instructor Development and Recognition Program
INCOPD	Institute for Noncommissioned Officer Professional Development
IOR	Instructor Observation Rubric
ISAP	Individual Student Assessment Plan
ITRO	Interservice Training Review Organization
MAIB	Master Army Instructor Badge
MFR	Memorandum for Record
MISB	Master Instructor Selection Board
NCOA	Noncommissioned Officer Academy
NCOES	Noncommissioned Officer Education System
OASS	One Army School System
PDSI	Personnel Development Skill Identifier
PI	Primary Instructor
POI	Program of Instruction
PRT	Physical Readiness Training
PSC	Personnel Support Center
SAIB	Senior Army Instructor Badge
SDLIC	Synchronous Distributed Learning Instructor Course
SFDB	Staff and Faculty Development Branch
SFDP	Staff and Faculty Development Program
SRB	Soldier Record Brief
TF	TRADOC Form

TLO	Terminal Learning Objective
TPU	Troop Program Unit
TR	TRADOC Regulation
TSP	Training Support Package
TRADOC	United States Army Training and Doctrine Command
USASMA	United States Army Sergeant Major Academy

GLOSSARY

Action Statement. An element of the learning objective. The learning objective action statement specifies what a student is to be able to do as a result of the educational experience.

Advance Sheet. Derived from the lesson plan. The advance sheet provides the student with key information about the lesson scope, learning objectives, and study requirements.

Affective Domain. One of three learning domains defined in Bloom's Taxonomy. The affective domain deals with the emotional, or feeling, aspect of learning and offers the means for the student to internalize the new material that the teacher is presenting. Without this internalization the new material does not become part of the student. The affective domain consists of five levels: receiving, responding, valuing, organization, and characterization of a value or value complex. The progression through these five levels is from simply being aware through an organized internalization of an attitude or value which becomes the defining characteristics of that person.

Analysis Phase. First phase of the Training Developer's decision making process (ADDIE). The analysis phase is the critical link between identifying the educational requirements and developing the instruction. The phase begins with the learning objective action statement or given topic. In this phase, the lesson author must determine what to teach, how much to teach, the students' backgrounds, and the available resources.

Apply. Fifth and last step of the Army Experiential Learning Model; the check on learning. The apply is similar to the Assessment, in that it is linked to ELO standards; however, the apply should not be delayed. The apply serves as a means for the verification of students' achievement of the ELO standards before they leave the classroom. Instructors have significant latitude on how to accomplish this and may use such techniques as "muddiest point," "one-sentence summary," and other approaches. If the apply indicates that students are unclear about key aspects of the lesson content, the instructor can return to the generalize new information (GNI) step to readdress those key points and ensure the students are adequately prepared to complete any future assessments that may pertain to the lesson content.

Army University. The Army's Training and Doctrine Command (TRADOC) organized professional military education programs into a university system to increase academic rigor, create greater opportunities for accreditation, and enhance the quality of the force. This system will align the officer, warrant officer, non-commissioned officer, and civilian education programs across TRADOC under a single academic structure with a consistent brand name. This alignment streamlines academic governance, reduces stovepipes, facilitates accreditation of educational programs, and promises the opportunity to diffuse best practices rapidly.

Assessment. Measurement of student learning as defined in the Assessment Plan (Appendix A of the Lesson Plan). Assessment may be either formative or summative. Although similar to the apply step of the ELM, Assessment is more formal, and is mandated by the college. It may be delayed, as with a writing assignment due at a future time, or for a future exercise that serves as the means to assess the mastery of skills taught in the lesson. Assessment should not be confused with evaluation, which examines programs and courses—not students.

Bloom's Taxonomy. Dr. Benjamin Bloom ordered learning objectives into a 6-tiered hierarchy, from lowest level or learning to most rigorous level: knowledge, comprehension, application, analysis, synthesis, and evaluation.

Cognitive Domain. One of three learning domains defined in Bloom's Taxonomy. The cognitive domain deals with the thinking aspect of learning: acquiring, recognizing, and manipulating facts, developing the intellectual skills to effectively breakdown these facts into their components, and to recognize the relationships of the components and how they are organized. The cognitive domain is described by six developmental levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. Competencies. An observable, measurable pattern of knowledge, abilities, skill, and other characteristics that individuals need to perform work roles or occupational functions successfully

(DODI 1400.25–V250).

Competency-based Instruction. Defining competency-based learning is complicated due to its broadly framed usage by educators, and by the fact that its definition varies across location. Some common synonyms include proficiency-based, mastery-based, outcome-based, performance-based, and standards-based education, instruction, and learning. For the purpose of the COMMON FACULTY DEVELOPMENT PROGRAM-INSTRUCTOR COURSE (CFDP-IC), competency-based instruction refers to the course focus on twenty (20) World Class Faculty Instructor Competencies. These competencies underpin the MCoE CFDP-IC rubric. NOTE: In this context Competency should not be confused with the term Competent, the third level in the Dreyfus Performance Model describing the skills acquisition process. See Dreyfus Model.

Concrete Experience (CE). First step of the Army Experiential Learning Model. The concrete experience serves as a trigger of past experience and knowledge, as a focusing mechanism for the lesson that follows, and as a support for the teaching of new content. The CE appeals to the student's affective domain behavior of "valuing" or higher while providing a common "experience" that is connected to the new lesson content.

Condition Statement. An element of the learning objective. The condition statement describes the learning environment. It states what will be provided (a scenario, small group), what will be denied (without references, closed-book), and the time constraints, if any.

Design Phase. Second phase of the Training Developer's decision making process (ADDIE). The design phase uses the results of the analysis phase to help identify the lesson components. Topic lists are translated into realistic enabling learning objectives (ELOs) and standards that define the ELO action statement.

Develop Phase. Third phase of the Training Developer's decision making process (ADDIE). In this phase, the ELO, standards, and lesson content outline are converted into an actual lesson plan and advance sheet.

Develop. Fourth step of the Army Experiential Learning Model. This step is student-centric. It provides students a final opportunity to express how the lesson content will be of value to them in the future.

Dreyfus Model of Skills Acquisition. A model that provides the instructor awareness of five levels of skills acquisition, novice, advanced beginner, competent, proficient, expert.

Domain. A field of action, thought, influence, etc., the domain of learning.

Education. Structured process to impart knowledge through teaching and learning to enable or enhance an individual's ability to perform in unknown situations (AR 350–1).

Evaluation. Examination of the effectiveness of a course or program. Evaluation may be either formative or summative. Evaluation should not be confused with assessment, which measures the performance of students.

Evaluation Phase. Fifth phase of the ADDIE decision making process. Although depicted last in the process, this is actually a continuous process that consists of data collection and analysis to determine effectiveness and value of a course or program. It includes both formative and summative components. Summative evaluation may be internal (inside the schoolhouse) or external (outside the schoolhouse).

Experiential Learning Model (ELM). More precisely, the Army Experiential Learning Model. The ELM is based on the work of such prominent educational theorists as John Dewey, David Kolb, Jean Piaget, Kurt Lewin, and others and is the principle tool for the Army educational process. The ELM also serves as a framework for planning the conduct of a lesson. It consists of five steps: concrete experience (CE), publish and process (P&P), generalize new information (GNI), develop (value), and apply (check on learning).

Formative Assessment/Evaluation. Conducted during the conduct of the lesson (assessment) or course (evaluation). Formative assessment or evaluation allows for intermediate feedback to permit the application of corrective action that will improve the final result. An example is a mid- term exam which can help students understand where they need to focus their efforts to improve their final grade.

Freeze-Thaw Model. A model focused on a learner's progression through stages of realization in the learning process. It begins with a learner who lacks awareness of what he or she doesn't know and ultimately results in the learner achieving mastery, or unconscious competence. The star in between Consciously Incompetent and Consciously Competent is the **"Choice Point."** The choice point is the place where an individual must decide whether to remain incompetent, and be fully aware of his or her incompetence, or to progress along a path of learning to become consciously competent. This may be a time of struggle and individuals often exhibit behaviors similar to those who have suffered a loss and are **experiencing grief.**

Gap Analysis. A component of the Analysis Phase. Gap Analysis compares the desired educational outcome of the Topic Analysis with the student's pre-instruction foundational knowledge as determined within the Target Audience Analysis.

Generalize New Information (GNI). Third step of the Army Experiential Learning Model. The GNI is where the lesson content is taught. The content to be taught must focus on those aspects that are essential to achieve the learning objective standards. Both content and methodology must be considered during GNI to ensure achievement of the appropriate learning level. GNI can include a wide variety of techniques including lecture, discussion, demonstration, role-play, simulation, case study, and other approaches.

Goal Analysis. A component of the Analysis Phase. Goal analysis identifies the lesson goals and how the lesson supports the Block Terminal Learning Objective.

Implementation Phase. Fourth phase of the ADDIE decision making process and the direct link with the instructor. This phase has two distinct components. Component 1 ensures instructors understand the course vision, content, delivery methodology and are ready to teach. Component 2 of the implementation phase is the actual conduct of the course.

Instructional Strategy

Learning Level. An element of the learning objective based on Bloom's six cognitive domain levels of learning.

Learning Objective. A precise statement of the student's expected performance (action), the learning environment (condition), and the required specificity (standards) for student performance.

Lesson Plan. The author's means of communicating lesson intent to the instructors. The lesson plan organizes what is presented in the lesson as well as when and how it is to be presented.

Method of Instruction (MoI)

Milestone Plan. A component of the Analysis Phase. The milestone plan defines deadlines associated with such aspects as obtaining copyrights and publication requirements and serves as a road map for managing the development process.

Practicum. (in a college or university) The part of a course consisting of practical work in a particular field. This is the term that replaced "Test Point" in the Army Basic Instructor Course.

Pratt Model of Teaching. This model contains five elements: teacher (instructor, facilitator, trainer), learners, content, context, and ideals and three relationships (represented by lines X, Y, and Z). Instructors may consider:

- How do you define your role? What is your primary role as a teacher?
- How do you describe your learners? Who are they?
- How do you decide what to teach—and what should be learned?
- How do you locate your teaching within a context? What are the circumstances that frames your teaching?
- Can you name any ideals, beliefs, or values that influence your teaching? What about your learners' values and beliefs?

Process - Content Model. This model is a way to look at how learning happens within a group. Content is the "what"—the rules, the facts, and requirements stated in the learning objective. Process is the "how"—the interaction of the group. The squiggly line that passes over the time line represents the path a group may take in getting to the goal. They may spend time focused on the content before moving on to focus more on the process. The top of the line (where it changes directions) indicatesa point or points where the instructor may need to intervene, such as providing additional guidance or pointing out an unproductive course of action.

Psychomotor Domain. This learning domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The lowest level is Imitation, and progresses through Manipulation, Precision, Articulation, to the highest level of Naturalization.

Publish and Process (P&P). Second step of the Army Experiential Learning Model. The publish and process step is the critical link between the concrete experience and the generalize new information. It consists of two distinct components: the "publish" surfaces the student reactions to the CE, reflecting their experience and knowledge of the topic while the "process" initiates a reconciliation of where the student is and, where the student should be at lesson end. The P&P may also reveal student bias and other preconceptions that must be dealt with if learning is to occur.

Resource Analysis. A component of the Analysis Phase in which the author identifies resources and constraints.

Standard. An element of the learning objective. The standards help to define the action statement by specifying what constitutes successful accomplishment of the learning objective. Standards provide the criteria used to measure if and how well the student mastered the task.

Summative Assessment/Evaluation. Conducted at the conclusion of the lesson (assessment) or course (evaluation). Summative assessment or evaluation does not allow for changes or corrective action to the current situation, but may inform future changes to assessment instruments or curriculum. An example is a final exam—students have no opportunity to improve their grades following this summative assessment.

Target Audience Analysis. A component of the Analysis Phase. Target audience analysis describes the adult learners and their existing experiences, knowledge, and abilities.

Task. In the context of Army training, a task is a single discrete action. Individual task analysis is the basis for determining performance data, how the task is actually performed, under what conditions it is performed on the job, and how well the individual must perform the task. Task analysis provides the detail to design and develop efficient and effective individual training.

Taxonomy. The science or technique of classification into ordered categories. Educational objectives are ordered into learning levels, see Bloom's Taxonomy.

Topic Analysis. A component of the Analysis Phase. Topic analysis identifies the behaviors and abilities students must master to meet the educational outcome described by the ELO action statement or assigned topic for an elective.

Klein, J., Spector, J., Grabowski, B. and de la Teja, I. (2004). Instructor competencies: Standards for face-to-face, online, and blended settings.

PROFESSIONAL FOUNDATIONS

1. Communicate effectively.
2. Update and improve one's professional knowledge and skills.
3. Comply with established ethical and legal standards.
4. Establish and maintain professional credibility.

PLANNING AND PREPARATION

5. Plan instructional methods and materials
6. Prepare for instruction.

INSTRUCTIONAL METHODS AND STRATEGIES

7. Stimulate and sustain learner motivation and engagement.
8. Demonstrate effective presentation skills.
9. Demonstrate effective facilitation skills.
10 Demonstrate effective questioning skills.
11. Provide clarification and feedback.
12. Promote retention of knowledge and skills.
13. Promote transfer of knowledge and skills.
14. Use media and technology to enhance learning and performance
15. Facilitate life-long learning.*

ASSESSMENT AND EVALUATION

16. Assess learning and performance.
17. Evaluate instructional effectiveness.
18. Counsel students.*

MANAGEMENT

19. Manage an environment that fosters learning and performance.
20. Manage the instructional process through the appropriate use of technology.

Principles of Adult Learning

- The greatest learning occurs when adults take responsibility for determining what they learn.

- Adults learn that which is personally beneficial.

- Adults learn what they discover for themselves.

- Adults learn more from experience and feedback than from experience alone.

THE ARMY UNIVERSITY
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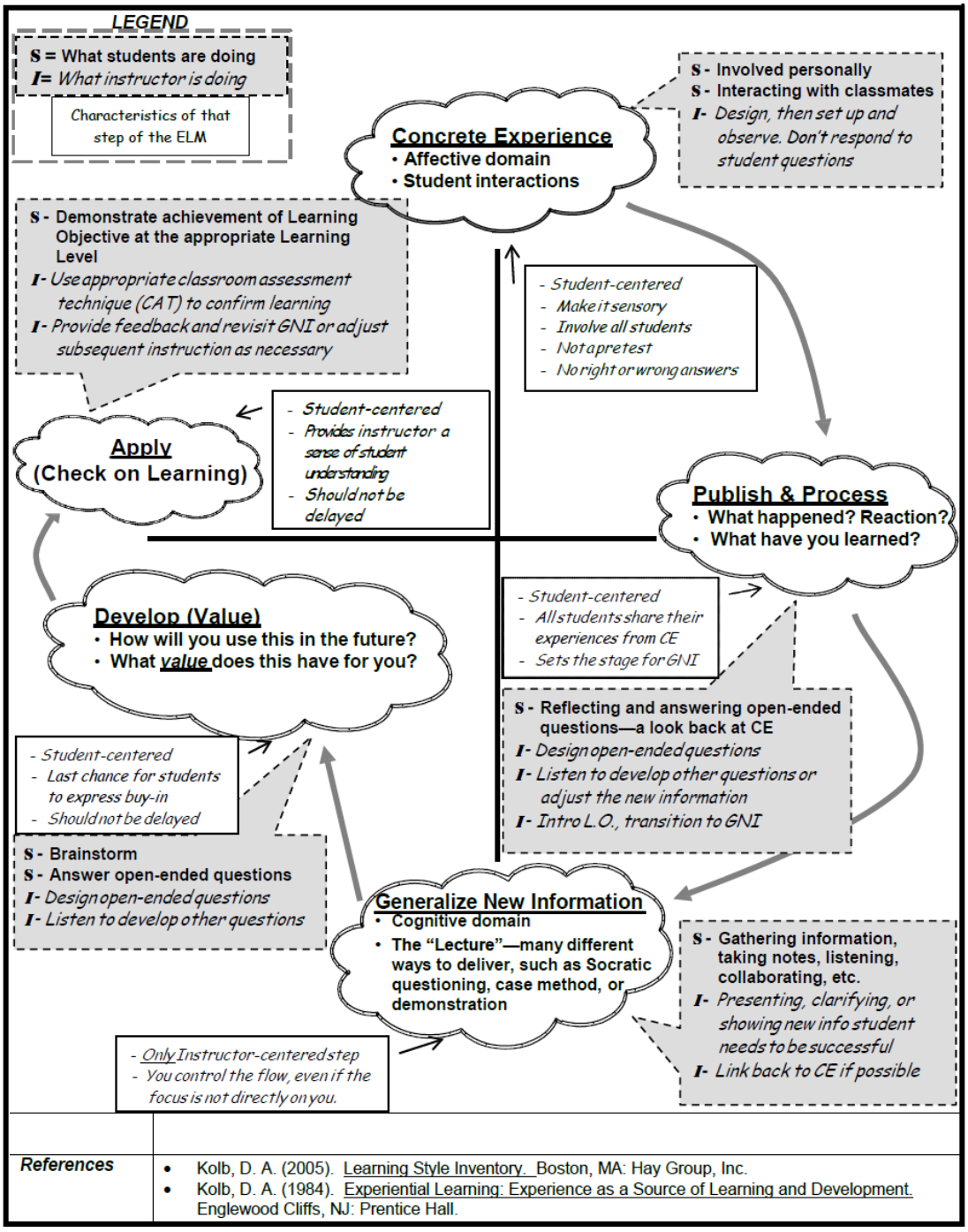
Instructor Course

Lesson 3: Foundations of Adult Learning
Appendix C: The Experiential Learning Model Job Aid



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