1. **Scenario:** You are a RAF planner. You will be designing and developing training for your counterparts. You have the following information:

   - Excerpts from TRADOC Pam 525-8-2: The U.S. Army Learning Concept for 2015 (referred to as ALC 2015) (20 JAN 2011)
   - TC 25-10: A Leader’s Guide to Lane Training (26 AUG 1996)

   a. **Task:** Review the Army Learning Model (ALM) information provided, and reflecting on STX lanes you have designed or participated in, identify how the dynamics of legacy lane training could be adapted to incorporate the principles identified.

2. **Purpose:** To assist trainers in adapting training development processes to encompass new training models

3. **Time:** 10 Minutes
Chapter 2  
Conceptual Foundation
(Note: The term “full-spectrum operations” is rescinded per ADP 3-0 Unified Land Operations and replaced with the term “decisive operations”)

2-1. Introduction
Lessons from nearly a decade of conflict, anticipated challenges, and technological opportunities compel us to re-examine the Army learning model. Building upon the current learning model (baseline) described in chapter 1, this chapter describes some of the key operational and learning environment factors that provide the conceptual foundation for a more adaptable learning model.

2-2. Operational factors
Recent operations indicate that an era of persistent conflict will place greater demands on Soldiers and leaders to execute full-spectrum operations in complex, uncertain environments. TRADOC Pam 525-3-0, with its theme of operational adaptability, is the foundation for ALC 2015. TRADOC Pam 525-3-0 places greater emphasis on the capability of leaders and Soldiers to be the instruments of adaptation in executing full-spectrum operations, rather than relying solely on superior technology. It describes operational factors that have profound implications for the Army’s learning model, as discussed below.

a. Full-spectrum operations. Counterinsurgency and stability operations dominate the current fight; however, forces must be prepared to execute full-spectrum operations. Soldiers and leaders must learn to rapidly transition between offensive, defensive, and stability operations or civil support operations while understanding that many military fundamentals remain the same in any type of operation. Preparation for future operations must include the complexity, uncertainty, continuous transitions between operations, protracted time, information complexity, and adaptive enemies that are anticipated in future conflict. The learning model must provide opportunities to experience full spectrum challenges through a balanced mix of live, virtual, constructive, and gaming environments.

b. Adaptability. Leaders at all levels must have opportunities to develop operational adaptability through critical thinking, willingness to accept prudent risk, and the ability to make rapid adjustments based on a continuous assessment of the situation. They must be comfortable with ambiguity and quickly adapt to the dynamics of evolving operations over short and extended durations.14 Leaders must be adept at framing complex, ill-defined problems through design and make effective decisions with less than perfect information. The learning model must develop adaptability at all levels through a foundation of operational competencies and then increase the type and intensity of stressors and ambiguity.

c. Decentralization. The Army increasingly empowers lower echelons of command with greater capabilities, capacities, authority, and responsibility. This requires leaders who can think independently and act decisively, morally, and ethically. Decentralized
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Exercise 1 – Army Learning Model

execution under mission command is the norm. Current and future operational environments will place increased responsibility on Soldiers to make decisions with strategic, operational, and tactical implications while operating in complex environments and employing combined arms teams. These operations demand increased understanding of geopolitical, cultural, language, technical, and tactical knowledge for leaders at all levels, to include the “strategic corporal.”

d. Master fundamentals. Currently the Army has extensive combat experience that provides an in-depth understanding of the fundamentals that contributed to mission success in counterinsurgency operations. Mastering and sustaining core fundamental competencies better support operational adaptability than attempting to prepare for every possibility. The fundamental competencies must be clearly identified to support executing future full-spectrum operations and time must be allotted to attain proficiency through repetition and time on task. This is particularly important in the Reserve component due to the limited amount of time members of the Army Reserve have to spend on military duties. The Army’s learning model must provide opportunities for the Army to continuously assess and build mastery of fundamental competencies.

e. Culture and language. The Army operates with and among other cultures as part of a joint, interagency, intergovernmental, and multinational force, engaging adaptive enemies where indigenous populations, varying cultures, divergent politics, and wholly different religions intersect. This requires developing Soldiers who understand that the context of the problem matters and that their understanding of the non-military world of foreign societies and cultures be broadened. Soldiers and leaders need to learn general cultural skills that may be applied to any environment as well as just-in-time information that is specific to their area of operations. The Army culture and foreign language strategy requires both career development and pre-deployment training to achieve the culture and foreign language capabilities necessary to conduct full-spectrum operations.

f. Capitalize on experience. Recent operations provide Soldiers with a wealth of operational experience that contributes to peer-based learning in today’s classrooms, through blogs, and other media. The future learning model must offer opportunities for Soldiers to provide input into the learning system throughout their career to add to the body of knowledge, and utilize recent combat veterans as learning facilitators. The learning model must account for prior knowledge and experience by assessing competencies and tailoring learning to the Soldier’s existing experience level and adjust to take advantage of changes in Soldier and leader experiences over time.

2-3. Learning environment factors
A review of recent research and learning trends led to the selection of five key learning environment factors (see figure 2-2) that will influence the future Army learning model. A common theme is the growing influence of information technologies. This influence is having a profound effect on learning approaches in higher education centers, primary and secondary schools, and private corporations. Wireless internet devices and cloud computing provide expanded opportunities for anytime, anywhere access to information.
The degree of potential change that evolving information technologies will have on learning has been described as one that calls for “revolutionary transformation rather than evolutionary tinkering” to meet learner expectations and exploit advantages of ubiquitous access to learning. While technology plays an important role in a global transformation of learning, it is neither a panacea nor the centerpiece. As an enabler, technology can be exploited to make learning content more operationally relevant, engaging, individually tailored, and accessible.

a. Generational and learner differences. The 2015 learning environment will include a range of learners whose pre-Army educational experiences, mastery of digital technology, and operational experience will vary considerably. Leaders and facilitators must gain an appreciation for learning differences among Soldiers in their command.

(1) Much has been written about millennial learners and generational differences. Generational changes in society have not changed cognitive learning functions; however, responding to or recognizing generational differences are an important consideration in devising a new Army learning model. While no generation is entirely homogeneous, some general characteristics attributed to the digital age learners include visual and information literacy, multitasking ability, immersion in technology (ubiquitous computing), social engagement, achievement-oriented, sheltered from harm, and a desire to make a difference in the world. Digital age learners will not accept learning environments that do not provide enough support, feedback, or clearly demonstrate the relevance of the learning material to their lives. Social interaction and team participation are increasingly important; therefore, the future learning model must provide more opportunities for collaboration and social learning. Some researchers are critical of digital age learners and suggest that their reliance on digital media has also resulted in shorter attention spans, poor teamwork skills, lack of listening and critical thinking skills, and a lack of intellectual courage.

(2) The Army’s 2015 learning environment will include learners from a range of generations. It is important to consider the value of prior experience and knowledge that each individual Soldier brings to the learning environment. The implication for the 2015 learning model is to provide more individually tailored instruction to Soldiers that accounts for prior knowledge and experience through assessments of competencies. In the classroom, the Army must move from individual-based and instructor-delivered learning to team-based, facilitated learning.

b. Technology opportunities.

(1) Technology and the Internet foster an increasingly competitive and interdependent global environment and impact nearly every aspect of Soldiers’ daily lives – how they work, play, interact with others, and learn new things. There is a growing disparity between Soldiers’ experiences in and out of Army schools. Soldiers use computers, mobile devices, and the Internet in units and off-duty experiences that too often are radically different from what they experience in institutional learning. The Army must close this gap to attract and retain a generation of young people who know how to use
technology to learn both formally and informally. The Army must leverage technology to establish a learning system that provides engaging, relevant, and rigorous resident, distributed, and mobile learning.

(2) Emerging technologies that are likely to have the greatest effect on the learning environment in the next 5 years include mobile computing, open content, electronic books, augmented reality, gesture-based computing, and visual data analysis. The Army must have a capacity to evaluate and integrate rapidly expanding learning technology capabilities to keep the learning system competitive and responsive. Adaptive learning, intelligent tutoring, virtual and augmented reality simulations, increased automation and artificial intelligence simulation, and massively multiplayer online games (MMOG), among others will provide Soldiers with opportunities for engaging, relevant learning at any time and place. Curriculum developers must be adept at rapidly adapting to emerging learning technologies that, coupled with modern instructional design strategies, will improve overall effectiveness of the learning environment.

c. Inputs to the Army.

(1) Army recruits are generally the product of the Nation’s education system, though home schooling, post-secondary education, and variations in the quality of educational experiences suggest that generalizations about the Nation’s education system do not fit every incoming recruit. Nevertheless, statistical rankings of the Nation’s education system imply the Army will need to fill gaps, in addition to developing Army-specific skill sets, to achieve desired performance levels. By many measures of success, the U.S. is failing to meet the challenge of educating its future workforce. Among employers those who hire young people right out of high school, nearly 50 percent said that their overall preparation was deficient and 70 percent of employers in one study ranked the high school graduates they hired as deficient in critical thinking/problem solving, the single most important skill high school graduates will need in 5 years. Children in poor communities fare worse. The U.S. literacy rate (as traditionally measured) is declining – 14 percent of the U.S. population over the age of 16 (approximately 30 million people) have trouble with reading and writing. Ranked against 34 other developed countries, 15-year olds in the U.S. show mediocre performance rankings of 14th in reading, 25th in math, and 17th in science. Households speaking more than one language are increasing and multicultural families are becoming more the norm. This requires shifts in education models to accommodate linguistic and cultural challenges. Obesity and related health problems are on the rise with nearly two-thirds (63 percent) of 20-44 year olds being classified as either overweight or obese. The pool of candidates who can meet military standards for service entry is dwindling. The Army faces the real possibility of a less educated, less fit entrant who will require additional training and education to fill gaps.

(2) In the last decade, the Nation’s primary and secondary schools complied with the No Child Left Behind Act by emphasizing standardized testing to gauge educational outcomes. Some educators believe the unintended consequence of teaching to the test
produced a generation of graduates who do not possess essential survival skills to succeed in the workforce (such as, critical thinking, collaboration, adaptability, effective communication, problem solving, and others).\textsuperscript{28} Army leadership doctrine identifies many of the same skills as essential for operational adaptability.\textsuperscript{29} The Army will need to take deliberate steps to identify baseline skill levels essential for operational adaptability and outcome measures for each cohort and echelon.

d. Learning science.

(1) Advances in learning science, cognitive psychology, educational psychology, neuroscience, and other related fields provide new insights into improved learning strategies and applications of technology to learning. Yet years of research show there is still no single learning strategy that provides the most effective solution to every learning problem. Decisions regarding instructional strategies and media selection must be made by experts based on the audience, the level of experience the learner brings, and the content of the learning. Well established research findings identify some of the most important learning principles that should be included in the design of Army learning products.

(2) Adult learning is promoted when the learner’s prior knowledge is activated prior to learning new knowledge. The learner observes a demonstration. The learner applies new knowledge. Demonstration and application are based on real-world problems. The learner integrates new knowledge into everyday practices.

(3) Well-designed learning must incorporate deliberate strategies to ensure learning transfers from the learning environment to the operational environment.\textsuperscript{32} Adapting to rapidly changing operations involves developing a deep understanding within specific content areas and making the connections between them.\textsuperscript{33} Instructional developers should identify tasks that are performed routinely (near-transfer) and those that often require modification (far-transfer) to apply learning designs that maximize adaptation. Learner characteristics that influence transfer include cognitive ability, self-efficacy, and motivation. Some of these learner characteristics are malleable and enhanced through specific learning strategies such as mastery experiences and supportive feedback. One of the oldest ways of conveying information is through storytelling. It is engaging, memorable, and enhances learning transfer. Virtual scenarios, videos, and other media provide greater opportunities to incorporate high impact stories into learning events.

e. Lifelong learning. The importance of lifelong learning increases as the pace of change and information flow increases. Remaining competitive in the civilian job market requires workers to update professional skills throughout careers. Likewise, Soldiers must acquire the habits of lifelong learners. Soldiers must become expert, self-motivated learners who are capable of asking good questions and possess digital literacy skills that enable them to find, evaluate, and employ online knowledge, whether in learning or operational environments. Army training, education, and experience domains require a holistic integration and clearly defined paths to achieve outcomes at each stage of a Soldier’s career. The Army’s learning model can facilitate a lifelong
learning culture by encouraging critical thinking, complex problem solving, and providing tools that allow Soldiers to access relevant performance-related information. The Army must augment knowledge available from civilian sources by developing Army-specific knowledge content that is accessible on demand in a career-long continuum of learning that integrates training, education, and experience.

2-4. Key implications

a. With more expected of Soldiers and leaders, the Army must meet the challenge to prepare Soldiers and leaders who are technically and tactically proficient, can think critically, make sound decisions, interact across cultures, and adapt quickly to rapidly evolving situations in full spectrum operations. Information technologies shape the way learners coming into the force learn and communicate, and increase the volume of knowledge that must be managed and disseminated. These technologies are causing the Army to reexamine learning, and are spawning a transformative global view of learning. Information technology advances are empowering U.S. adversaries and will only give the Army a competitive advantage if fully exploited.

b. To remain competitive, the learning model must seize opportunities to use technology as an enabler to engage and appeal to digital age learners. It must allow seasoned professionals to expand and deepen their cognitive, interpersonal, and problem framing skills essential for operational adaptability. The learning model must permit the learning system to expand beyond the confines of brick and mortar to deliver learning to Soldiers at the point of need.

c. The mandate for the Army is to create a learning environment that enables mastery of fundamental competencies through an appropriate mix of live and technology-enabled learning methods. Technology-enabled learning must be balanced with higher quality face-to-face learning experiences that employ learning strategies that foster critical thinking and problem solving skills needed for operational adaptability. The implications of these factors lead to the solutions declared in chapter 3 -- a learning model that supports operational adaptability.