

# Learning from Experience: How the US Army Can Extend the Learning Process Started at the National Training Center

A Monograph

by

MAJ Joshua W. Linvill  
US Army



School of Advanced Military Studies  
US Army Command and General Staff College  
Fort Leavenworth, KS

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## Monograph Approval Page

Name of Candidate: MAJ Joshua W. Linvill

Monograph Title: Learning From Experience: How the US Army Can Extend the Learning Process Started at the National Training Center

Approved by:

\_\_\_\_\_, Monograph Director  
James K. Greer, PhD

\_\_\_\_\_, Seminar Leader  
Travis A. Jacobs, LTC

\_\_\_\_\_, Director, School of Advanced Military Studies  
Brian A. Payne, COL

Accepted this 21st day of May 2020 by:

\_\_\_\_\_, Acting Director, Office of Degree Programs  
Prisco R. Hernandez, PhD

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## Abstract

Learning from Experience: How the US Army Can Extend the Learning Process Started at the National Training Center, by MAJ Joshua W. Linvill, 54 pages.

The National Training Center provides rotational training units tough, realistic training to prepare them for combat. This study examines how the Army can improve the outcomes of each rotation beyond training. This study answers the research question, how can the US Army manage National Training Center rotations as learning events for the Army instead of training events for the rotational training units to increase the benefit of each rotation for the whole Army? Experiential learning theory is critical to answering this question. Experiential learning theory, through the experiential learning theory model, focuses on four stages of learning. The four stages are concrete experience, reflective observation, abstract conceptualization, and active experimentation. Effective learning requires the learner to embrace each stage of the experiential learning theory cycle. For the Army to extend the learning process that begins during the concrete experience of a National Training Center rotation, it must elevate the other stages of the experiential learning theory cycle to the same status as concrete experience. Focusing on the other stages of the experiential learning theory model requires more than a simple change in priorities. A significant change in the culture of the Army is needed to harness the power of the experiential learning theory model.

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## Abbreviations

ALC-TE	Army Learning Concept for Training and Education
CALL	Center for Army Lessons Learned
ELT	Experiential Learning Theory
NTC	National Training Center
RTU	Rotational Training Unit

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## Introduction: Lessons Learned

Learning, especially for military organizations, is a long game. There is no “lessons learned” switch to flip following a major operation or training event. To improve the Army’s ability to fight and win large-scale combat operations individuals and organizations must take the time to process emergent ideas and developments. The US Army is at a mid-way point in the transition between the Unified Land Operations and the Multi-Domain Operations operational concepts. The National Training Center (NTC) is an important capability to enable the US Army to successfully transition from Unified Land Operations to Multi-Domain Operations. The US Army began using the decisive action training environment in preparation for large-scale combat operations eight years ago and may replace Unified Land Operations with Multi-Domain Operations by 2028. Getting the most out of the lessons learned during NTC rotations is critical to a successful transition.

### Background

It is difficult to argue that NTC fails to provide better trained soldiers and leaders for the US Army. However, since its founding in 1981, there has been an on-going argument about whether NTC provides valuable lessons learned to the whole Army. That argument became a crisis in the mid-1980s when Congressional oversight led the US General Accounting Office to investigate NTC’s training benefit compared to its cost. One of the 1986 General Accounting Office report’s objectives was, “to determine whether the Army was developing Army-wide lessons learned from the exercise results.”<sup>1</sup> The General Accounting Office concluded that NTC did not meet its full potential. One of the reasons NTC failed to meet its full potential was because the Army lacked a system to initiate army-wide solutions for problems identified during

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<sup>1</sup> US General Accounting Office, *National Training Center’s Potential Has Not Been Realized* (Washington, DC: Government Printing Office, 1986), 2.

rotations.<sup>2</sup> Since the first training unit completed a rotation at NTC, Army leaders have struggled with ways to collect, process, and analyze the lessons learned during rotations. In the summer of 1985, the Combined Arms Center at Fort Leavenworth established the Center for Army Lessons Learned (CALL). Thirty-four years later the CALL continues the collection and dissemination of lessons learned at NTC. CALL uses similar techniques to those used by the early leaders of NTC; publishing a collection of Observer-Controller articles and observations from NTC rotations. Although this system is valuable, there is an on-going discussion on how to improve the lessons learned from NTC rotations.

## Purpose and Significance of the Study

Realizing the full potential of NTC is a difficult task. The mission of NTC states, “the National Training Center conducts tough, realistic, Unified Land Operations with our Unified Action Partners to prepare Brigade Combat Teams and other units for combat while taking care of Soldiers, Civilians, and Family members.”<sup>3</sup> This study does not question whether or not NTC is accomplishing its mission and assumes NTC provides Brigade Combat Teams with tough, realistic operations to prepare them for combat. However, this study seeks to add to the on-going discourse of how to improve the outcomes of an NTC rotation. Current and former leaders from NTC Operations Group, the observer-controller trainer unit at NTC, are publicly soliciting inputs to improve the outcomes of NTC. COL David Wright, a former combined arms battalion team lead trainer, tweeted a question about how to improve the lessons learned process in June 2019. Wright wrote, “So let’s say hypothetically speaking a CTC re-examines how it communicates observations, trends, training shortfalls to the force. What are some methods, platforms, venues

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<sup>2</sup> US General Accounting Office, *National Training Center’s Potential Has Not Been Realized*, 3.

<sup>3</sup> Western Regional Partnership, “Fort Irwin: California,” November 2016, accessed November 5, 2019, <https://wrpinfo.org/media/1142/ft-irwin-wrp-mal-final-nov-2016.pdf>.

that #MILTWITTER would recommend?”<sup>4</sup> COL Michael Simmering, the Commander of Operations Group, tweeted a poll in October 2019 asking a similar question. Simmering asked, “Here’s a good question. Our Divisions have gotten exponentially better because CDRs are sharing info from WFX experiences openly and MCTP is as well. BN/BDE CDRs-do you think dirt CTCs should partner with RTUs to do the same? Openly sharing to make the Army better—faster?”<sup>5</sup> Using the framework of history, theory, and doctrine to answer the research question of this study will add to the discussion about how to improve NTC outcomes to improve the Army.

## Research Question

This monograph seeks to answer the following research question: How can the US Army manage NTC rotations as learning events for the Army instead of training events for the rotational training units (RTU) to increase the benefit of each rotation for the whole Army? This study must answer three subsidiary research questions to answer the primary research question. The three subsidiary research questions are; how do individuals and organizations learn, how does the Army learn, and how can an NTC rotation, as a learning event, benefit the entire Army?

## Organization of the Study

This monograph consists of eight sections to inform the analysis that answers the research question. The first section is the introduction. The second section is the literature review. The literature review identifies common trends from history and theory literature. Each of the following three sections conduct a deeper analysis of the literature as part of the sections overall purpose. The first section following the literature review is the theory section. The theory section focuses on Kolb’s experiential learning model, its origin, and application to military organizations. The next section is the history section. The history section uses a historical case

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<sup>4</sup> David Write, Twitter Post, June 20, 2019, 2224hrs, accessed June 20, 2019, <https://mobile.twitter.com/102ndblackhawk6/status/1141909718253752320>.

<sup>5</sup> Michael Simmering, Twitter Post, October 17, 2019, 2009hrs, accessed October 17, 2019, <https://mobile.twitter.com/simmering216/status/118499997114404864>.

study to demonstrate how an army learned quickly between major operations. This section relies heavily on historiography to set the context for later analysis. The third section following the literature review focuses on Army doctrine and publications to explain how the Army views learning and how NTC fits into the overall Army learning environment. The theory, history, and doctrine sections build on each other to set a foundation for the analysis and implications section. The analysis and implications section evaluates the information from each of the previous sections to answer the third subsidiary research question: how can an NTC rotation, as a learning event, benefit the entire Army? The recommendations section is the penultimate section, it answers the primary research question of this study and provides examples of how to answer it. The recommendation section also recommends areas for further research that fell outside the scope of this study. The final section is the conclusion section.

This qualitative research approach integrates history, theory, and US Army publications to identify the nature of learning for military individuals and organizations. A limitation is that human subjects were not included in this research. Nor does this research include surveys of relevant leaders or subject matter experts to improve the Army's use of lessons learned from NTC rotations. Quantitative analysis of the lessons learned published by CALL supports would also support the qualitative research methodology, but it is not the foundation for this analysis. This monograph is not a critique of CALL or any on-going attempts to improve the process of collecting or disseminating NTC lessons learned, but rather seeks to identify areas for overall Army improvement.

## Literature Review

The methodology of this literature review mirrors the organization of this study. Dividing the literature review into three sections focused on theory, history, and doctrine provides continuity through the study. The literature review identifies the sources that serve as the foundation for each section and outlines common themes that connect all the literature.

The theoretical model used throughout this monograph is the Experiential Learning Theory. David Kolb first wrote *Experiential Learning: Experience as the Source of Learning and Development* in 1984 and later published a second edition in 2015. Kolb's theoretical model is critical to understand how the US Army can learn from an NTC rotation because Kolb's model begins with a concrete experience, like the experience of a rotation, and describes how the experience can be used to generate learning in order to modify behavior and choices when presented with a new experience.

The history section focuses on a case study of the career of famed military educator and reformer Gerhard Johann David von Scharnhorst. This section relies on different history texts to describe the case study. The case study relates Scharnhorst's career to Kolb's experiential learning theoretical model. Relating the events of Scharnhorst's career to the phases of Kolb's learning cycle demonstrates that military individuals and organizations learn most efficiently by progressing through Kolb's model.

The doctrine section will not focus on Army field manuals or Army doctrinal reference publications. Instead, the doctrine section focuses on Army publications that concentrate on unit and leader development. Most of these publications are available on the Training and Doctrine Command or CALL websites. This section also references civilian texts to reinforce the ideas mentioned in Army publications.

The type of literature used in each section is diverse, but common themes throughout the literature are identifiable. The most important theme is that learning from experience is a long process. Sure, if a child touches a hot stove it learns very quickly from the experience to stay away from hot stoves. However, complex events and experiences require more time to digest, especially when reflecting on an experience while simultaneously dealing with new experiences. The second theme is a branch off the first. Learning is really relearning. Individuals always bring prior experiences, preconceptions, and biases to new experiences. The last theme seen within the

literature is the dialectic nature of learning. There is a constant tension, even if it is subconscious, between acting and deliberating. A proper balance is needed to learn efficiently and effectively.

## Experiential Learning Theory

Kolb's Experiential Learning Theory (ELT) is a valuable theoretical model for understanding how military organizations learn because it is based on experiences and is represented by a cycle that serves as a helpful lens to understand how militaries have learned from experience in the past and can serve as a deliberate framework for learning in the future. This section will explain the origins of ELT, its major ideas, and how ELT relates to military organizations. Understanding ELT is critical to answer the first subsidiary research question, how do individuals and organizations learn.

In his work Kolb explains how the research of a few early 20th century scholars established the foundation for ELT. Understanding the work of three of these scholars, Kurt Lewin, John Dewey, and Jean Piaget, is essential for understanding Kolb's ELT. Lewin, Dewey, and Piaget's research provide the most distinct elements of the experiential learning theoretical model. The distinct elements of the experiential learning theoretical model are the cyclical nature of learning and the dialectic nature of learning.

### Kurt Lewin

Kurt Lewin, 1870 to 1947, focused his research on experiential learning and organizational development.<sup>6</sup> Lewin is responsible for the development of training groups, or T-groups, in what Kolb describes as, "one of the most potent educational innovations in this century."<sup>7</sup> Lewin's T-groups originated from an experiment that involved a staff training program. Three core groups made up the training program; the trainees, the trainers, and the

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<sup>6</sup> David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Upper Saddle River, NJ: Pearson Education, 2015), 8.

<sup>7</sup> *Ibid.*, 9.

research observers. In the experiment, trainers spent the day working with trainees while research observers collected data. At the end of the day, trainees went home while trainers and research observers analyzed the events of the day. One day a small group of trainees asked to participate in the training analysis sessions.<sup>8</sup> What ensued was a discussion many military professionals would recognize as a contentious, but productive after-action review. During the analysis discussion one of the research observers made a remark about the actions of one of the trainees in the room. The trainee responded by disagreeing with the observation and explained the situation from her point of view. The trainer added his own perspective of the event and an active dialog ensued about the event. Trainee participation in the analysis sessions became standard and the most significant learning experience of the day, even more than the training itself.<sup>9</sup> The interaction of the T-groups is foundational to Kolb's ELT model.

Kolb believes the breakthrough from the T-group experiment came from a dialectic tension between experience and observation. The interaction between those who had a concrete experience, the trainees, and those who had an analytic detachment to the experience, the research assistants, facilitated an environment of creativity and learning.<sup>10</sup> The analysis of this dialectic led Kolb to create a simple, but foundational experiential learning model. Figure 1 shows the four-stage experiential learning cycle.

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<sup>8</sup> Kolb, *Experiential Learning* (2015), 9.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid., 32.

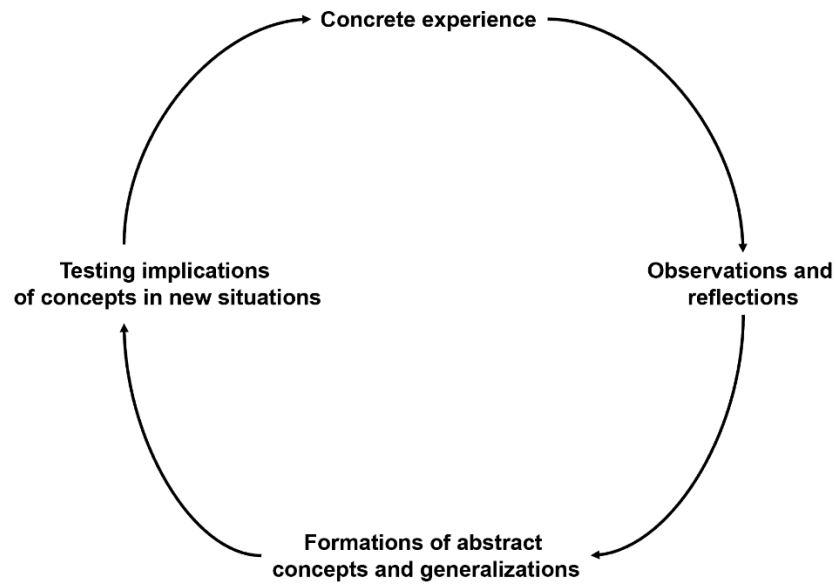


Figure 1. The Lewinian Experiential Learning Model. David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Upper Saddle River, NJ: Pearson Education, 2015), 32.

The four stages of the Lewinian Experiential Learning Model demonstrate the learning process Lewin observed during the T-group experiments. The concrete experience is the training that took place during the day. The group session at the end of the day is the observation and reflections step. The formation of abstract concepts and generalizations is the ideas brought to the experiment by the research observers. These concepts and generalizations sometimes form during stage three, but they can just as easily be updated following stage two, observations and reflections. It is important to note the cyclical nature of figure 1. Feedback trainees and trainers received for the following day represents stage four, testing implications of concepts in new situations. As Kolb explains, “these implications or hypotheses then serve as guides in acting to create new experiences.”<sup>11</sup> Each stage in the cycle is an important interaction in the experience and observation dialectic mentioned in the previous paragraph, especially during group experiences.

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<sup>11</sup> Kolb, *Experiential Learning* (2015), 32.

The dialectic between experience and observation is important, especially for this study, for two reasons. The first is simple; experience is an objective opportunity to test hypotheses and validate concepts. Secondly, a concrete experience provides a shared, subjective reference point with others to develop and test their own hypotheses. As Kolb writes, “when human beings share an experience, they can share it fully, concretely, *and* abstractly.”<sup>12</sup> The objective, subjective nature of a shared experience allows for a greater opportunity to learn when observations and reflections are shared between individuals of a group. Sharing experiences is critical to learning because it allows for feedback or the evaluation of consequences from an action. Lewin believed that individual and organizational ineffectiveness trace back to the lack of a feedback process.<sup>13</sup> In other words, without a process to analyze experiences the learning cycle breaks.

## John Dewey

John Dewey, writing in the first half of the 20th century, was a contemporary of Lewin. Like Lewin, Dewey believed in the importance of observation and reflection inside of a learning model. However, Dewey’s ideas differ from Lewin because Dewey stresses the need to control impulses on further action that prevent observation and reflection on the previous action. Dewey writes, “the critical education problem is that of procuring the postponement of immediate action upon desire until observation and judgement have intervened.”<sup>14</sup> This is a common problem discussed in today’s US Army. Leaders want to conduct better after action reviews, counsel soldiers, develop leaders, and update standard operating procedures, but they feel the pressure to focus on the next task or “fire.” This is where Kolb identifies the next dialectic found in experiential learning. Experience requires action to learn, but to fully learn from an experience requires observation and reflection. The theories generated during observation and reflection give

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<sup>12</sup> Kolb, *Experiential Learning* (2015), 32.

<sup>13</sup> *Ibid.*, 33.

<sup>14</sup> John Dewey, *Experiences and Education* (New York: Kappa Delta Pi, 1938), 69.

direction to instinct. As Kolb writes, “postponement of immediate action is essential for observation and judgment to intervene, and action is essential for achievement of purpose. It is through the integration of these opposing but symbiotically related processes that sophisticated, mature purpose develops from blind impulse.”<sup>15</sup> Kolb conceptualizes Dewey’s theory into the model shown in figure 2.

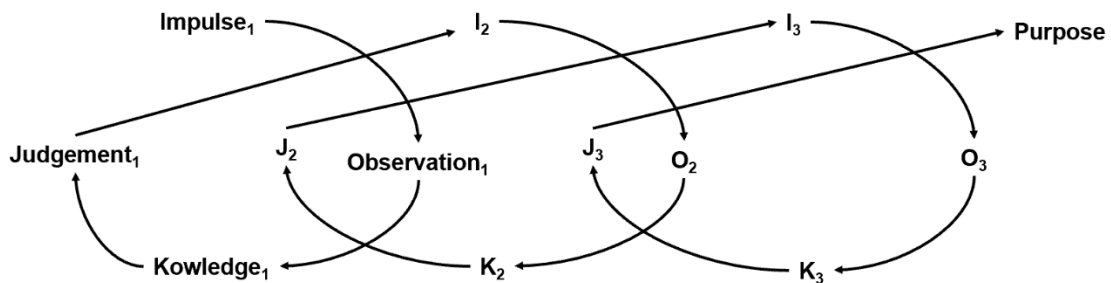


Figure 2. Dewey’s Experiential Learning Model. David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Upper Saddle River, NJ: Pearson Education, 2015), 34.

## Jean Piaget

Jean Piaget was another contemporary of Lewin and Dewey. Writing in the early 20th century, Piaget’s groundbreaking research focused on the cognitive development of children. The basis of Piaget’s research is that children of various ages arrive at different solutions to problems not because they are “smarter” or “dumber” but because they think about things in entirely different ways than children in different age brackets.<sup>16</sup> Kolb describes the development from infancy to adulthood as moving from, “a concrete phenomenal view of the world to an abstract constructionist view, from an active egocentric view to a relative internalized mode of knowing.”<sup>17</sup> In other words, a young child knows only what they experience where an adult

<sup>15</sup> Kolb, *Experiential Learning* (2015), 33.

<sup>16</sup> *Ibid.*, 12.

<sup>17</sup> *Ibid.*, 34.

creates knowledge and forms meaning based on his or her experiences. Kolb relates Piaget's theory of cognitive development directly to the learning models of Dewey and Lewin because all three show that learning takes place in an interaction between an individual and the environment.<sup>18</sup>

The concept of a learning dialectic also connects Piaget's theory of learning to Dewey's and Lewin's models. In Piaget's theory the dialectic exists between accommodation and assimilation. Accommodation is the use of theories to help explain experience. Assimilation is using experiences to create new or update existing theories. To maximize learning a balance between the two processes is needed. As Kolb explains, "when accommodation processes dominate assimilation, we have imitation—the molding of oneself to environmental contours or constraints. When assimilation predominates over accommodation, we have play—the imposition of one's concept and images without regard to environmental realities."<sup>19</sup> The interplay between Piaget's dialectic of accommodation and assimilation drives experiential learning.

Piaget's theory of accommodation and assimilation could describe different units' approach to a training event. One unit, on the purely accommodation end, just copies what other units have done before. It brings nothing new to training event and any lessons learned for the unit are already known by the larger organization before the training event even started. The other unit, following a purely assimilation approach, ignores all prior experiences and norms going into the exercise. It does not follow the exercise framework or appear to be interested in participating at all. Any learning that may take place is devoid of purpose for the unit or the larger organization. Balancing the tension between accommodation and assimilation is critical to the learning process, and thus to the effectiveness of training.

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<sup>18</sup> Kolb, *Experiential Learning* (2015), 34.

<sup>19</sup> Ibid.

## Kolb's Experiential Learning Theory

The review of the Lewin, Dewey, and Piaget's ideas about learning from experience demonstrate that learning takes place from conflicting dialectics. Combining the relationship between Lewin, Dewey, and Piaget's dialectics informed Kolb during his development of ELT. For Lewin the conflict is between concrete experiences and abstract concepts. For Dewey the conflict is between the impulses that force people to act on their ideas and reason that provides direction to those same ideas. To Piaget the interplay between the accommodation of ideas and assimilation of experience drive cognitive development.<sup>20</sup> As an individual, or organization, operates within these dialectics a cycle ensues. Within the Lewinian model, for example, someone has an experience and develops concepts about that experience that will shape the next experience. For Kolb, this cycle forms the foundation of his ELT.

Analysis of the varying concepts, dialectics, and models discussed in this section led Kolb to develop his own theory and model, figure 3. Kolb defines ELT as, "a dynamic view of learning based on a learning cycle driven by the resolution of the dual dialectics of action/reflection and experience/abstraction."<sup>21</sup> In his model Kolb expands on action with the term active experimentation and expands on reflection with the term reflective observation.

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<sup>20</sup> Kolb, *Experiential Learning* (2015), 40.

<sup>21</sup> *Ibid.*, 50.

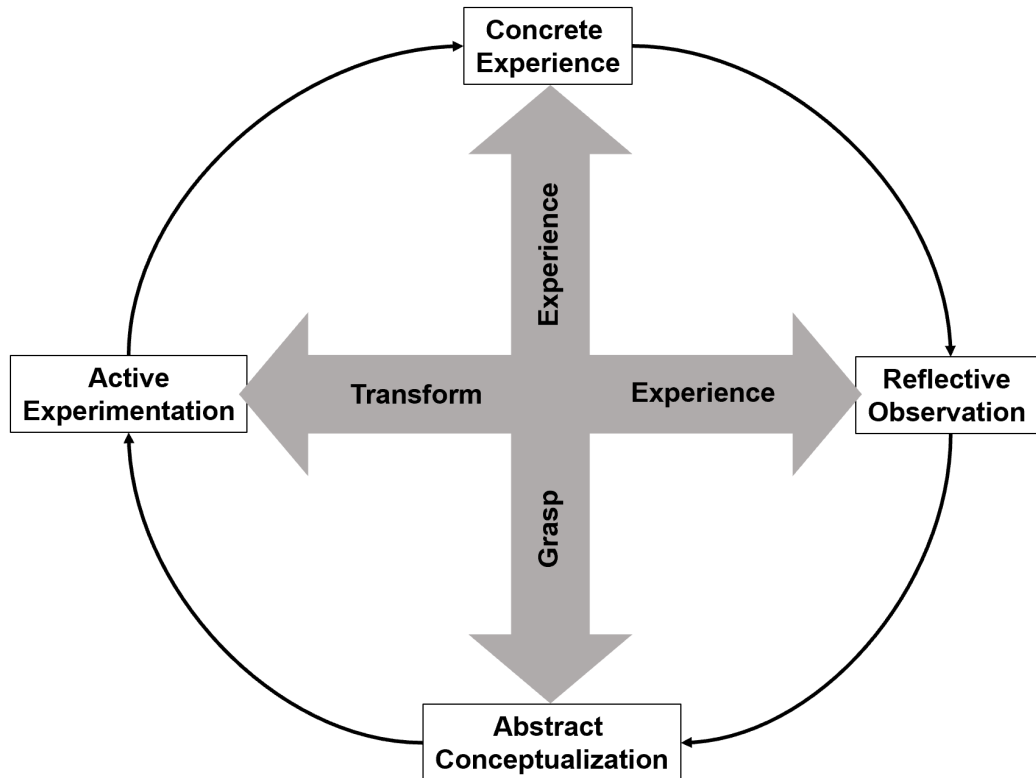


Figure 3. Kolb's Experiential Learning Theory Model. David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Upper Saddle River, NJ: Pearson Education, 2015), 51.

The ELT model is like the Lewinian model, figure 1, with the addition of the transforming and grasping cross. Kolb adds this cross to connect the different dialectics of experiential learning. He explains, "learning is defined as 'the process whereby knowledge is created through the transformation of experience.' Knowledge results from the combination of grasping and transforming experience."<sup>22</sup> Grasping is how individuals or organizations acquire information. Transforming is how they understand and act on the information. Individuals and organizations can grasp information by experiencing something or by reflecting on an experience they heard or read about. Individuals or organizations understand new information by reflecting on it and acting on a new hypothesis. In ideal circumstances the learner grasps and transforms knowledge at each of the four stages of the model and continues to iterate through the cycle. As

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<sup>22</sup> Kolb, *Experiential Learning* (2015), 51.

Kolb explains, “immediate or concrete experiences are the basis for observations and reflections. These reflections are assimilated and distilled into abstract concepts from which new implications for action are drawn. These implications can be actively tested and serve as guides in creating new experiences.”<sup>23</sup> To maximize learning each step of the cycle must be embraced by the learner.

Kolb describes the learner’s capability to incorporate a step of the cycle as an ability. Abilities correspond to the four steps of the ELT model. A learner with concrete experience abilities can take part in a new experience fully and without bias. Reflective observation abilities allow a learner to think about an experience from different perspectives. Abstract conceptualization abilities mean that a learner can develop theories based on their reflections. Demonstrating abstract conceptualization abilities requires the learner to test their theories to solve problems or make decisions.<sup>24</sup> None of these abilities are difficult to demonstrate individually but bringing them all to bear on an experience to fully develop the cycle is difficult.

Bringing all the ELT abilities together while in stressful circumstances increases the difficulty of learning effectively. As Kolb writes, “How can one act and reflect at the same time? How can one be concrete and immediate and still be theoretical? Learning requires abilities that are polar opposites. . . . Thus, in the process of learning, one moves in varying degrees from actor to observer, and from specific involvement to general analytic detachment.”<sup>25</sup> It is up to the learner, and in military cases the leadership, to ensure these abilities are allowed to prevail and each phase of the cycle is realized. The history section of this study explains how an Army can successfully learn from experience and this theory section is the lens used to better understand it.

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<sup>23</sup> Kolb, *Experiential Learning* (2015), 51.

<sup>24</sup> *Ibid.*, 42.

<sup>25</sup> *Ibid.*

## History

The following case study demonstrates how an army can learn from major operations. The case study is not an in-depth study into the complexity of the strategic situation or operational art. Instead, this study examines multiple events in the case study and tethers them to ELT. By viewing the case study through the lens of ELT, the history section demonstrates how the theory sections answers the first subsidiary research question, how do individuals and organizations learn?

### Scharnhorst and Prussia: Reforming the Old Guard

Scharnhorst lead the Prussian Army through reforms following their defeat by Napoleon at the twin battles of Jena and Auerstedt in October 1806. The reforms eventually transformed the Prussian Army from the outdated model of Frederick the Great to the dominate force that would spawn the Germany Empire in the Wars of German Unification. Scharnhorst's reforms were not born solely from the disaster of Jena and Auerstedt, the ideas began over a decade earlier following the War of the First Coalition, before Scharnhorst was even a Prussian Officer.

When the War of the First Coalition broke out in 1792 Scharnhorst was serving as a teacher and scholar in the Hanoverian Army. When Hanover joined the First Coalition a year later Scharnhorst had his first concrete experience with combat. Scharnhorst made a name for himself despite experiencing defeat by organizing an effective withdrawal and, later, planning the breakout of a besieged garrison outnumbered by the French ten to one.<sup>26</sup> When Scharnhorst returned to Hanover he reflected on his experiences in combat.

As Scharnhorst reflected on his experience against the French, he developed some theories about modern warfare. He became famous, even before the War of the First Coalition, for writing field manuals and military journals for professional consumption. After the experience

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<sup>26</sup> Charles E. White, *The Enlightened Soldier: Scharnhorst and the 'Militarische Gesellschaft' in Berlin, 1801-1805* (Ann Arbor, MI: University Microfilms International, 1986), 36-37.

of combat, Scharnhorst's theories and writing changed. As Charles White writes in *The Enlightened Soldier*, "The last six volumes [of the *Neues Militarisches Journal*] appeared after his experience in the War of the First Coalition (1792 to 1797). His attitude had by then changed considerably."<sup>27</sup> Scharnhorst hypothesized that modern combat, brought about by the French revolution, required a new degree of professionalism.<sup>28</sup> White explains that Scharnhorst "proposed a comprehensive educational program for officers and non-commissioned officers, together with better and more realistic training for the troops."<sup>29</sup> Scharnhorst theorized that operational command and control could be improved by changing the structure of the Army and utilizing the newly proposed educated officer corps. His proposed reforms included a permanent general staff and the creation of combined-arms divisions. Unfortunately for Hanoverian Army, Scharnhorst's proposed reforms were seen as a threat to the nobility who ran the Army and he was unable to experiment with his theories to transform the army for modern warfare. Figure 4 demonstrates how the ELT cycle is useful to understand how Scharnhorst's learning from his experience in the War of the First Coalition, but the Hanoverian Army failed to benefit from Scharnhorst's theories because it denied him the opportunity to test them.

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<sup>27</sup> White, *The Enlightened Soldier*, 35.

<sup>28</sup> *Ibid.*, 40.

<sup>29</sup> *Ibid.*, 41.

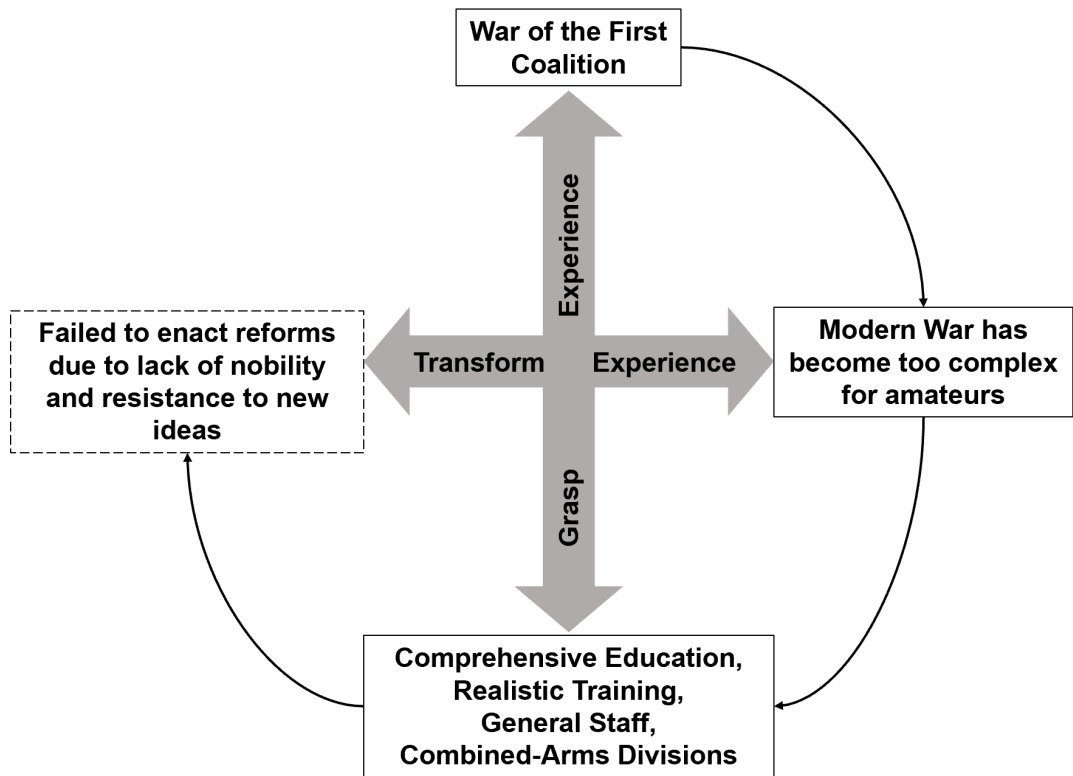


Figure 4. Scharnhorst’s experiential learning from the War of the First Coalition. Created by the Author.

Recognizing that he did not have a future in the caste-ridden Hanoverian Army, Scharnhorst began looking to export his theories to another army. Capitalizing on his existing fame, Scharnhorst negotiated with Prussia for a commission into their Army. In 1800 he accepted a promotion to Lieutenant-Colonel and Ennoblement from Friedrich Wilhelm III.<sup>30</sup> Scharnhorst was now a member of the Prussian Army.

Scharnhorst was only in Berlin for a few months when he began to make the most of his prior experiences and theories. In the summer of 1801, Scharnhorst was invited to attend a dinner by six fellow officers and two civilian professors working closely with the Prussian Army. At the

<sup>30</sup> Vanya E. Bellinger, “Introducing #Scharnhorst: The Vision of an Enlightened Soldier, On Experience and Theory,” The Strategy Bridge, April 1, 2019, accessed July 20, 2019, <https://thestrategybridge.org/the-bridge/2019/4/1/introducing-scharnhorst-the-vision-of-an-enlightened-soldier-on-experience-and-theory?rq=Scharnhorst>.

dinner the group decided to establish a military society with Scharnhorst as its director.<sup>31</sup> The purpose of the military society was to learn through the exchange of ideas with a focus on the current state of warfare.<sup>32</sup> The military society grew in popularity throughout its five-year existence. By 1805 the number of military society members grew to 187 members and the society had met approximately 180 times.<sup>33</sup> These meetings were critical to facilitate learning for the participants. Sharing their experiences and observations of the changing character of war enabled the participants to develop new theories and conduct thought experiments and practical exercises to test them. It was through the military society that Scharnhorst laid the foundation for future learning and reform.

The military society dissolved when Prussia began to mobilize for the War of the Fourth Coalition in 1805. The War of the Fourth Coalition demonstrated that Prussia was not prepared for war with Napoleon and France. Although Scharnhorst had managed to influence some reforms in Prussia, they were not enough to prevent disaster. Defeat at the twin battles of Jena and Auerstedt, and the pursuit that followed caused the complete collapse of the Prussian Army. For Scharnhorst, the ashes of the old regime presented an opportunity for learning and future reforms. As Thomas Kuhn explains in his book, *The Structure of Scientific Revolutions*, crisis allow new theories to take root by destroying old paradigms. Kuhn writes, the “failure of existing rules is the prelude to a search for new ones.”<sup>34</sup> Scharnhorst found himself perfectly positioned to oversee the experiential learning process when Frederick William appointed him as the chairman of Prussia’s Military Reorganization Commission.

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<sup>31</sup> White, *The Enlightened Soldier*, 50.

<sup>32</sup> White, *The Enlightened Soldier*, 55.

<sup>33</sup> *Ibid.*, 72.

<sup>34</sup> Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1996), 68.

The task of the Military Reorganization Commission went beyond reforming the Prussian Army. As Robert Citino writes in *The German Way of War*, “the purpose of the reformers was to forge a new Prussian patriotism. In giving the Prussian people a stake in defending the state, making them citizens and not merely subjects, the reformers hoped to harness the dynamism of the French Revolution.”<sup>35</sup> That said, the Prussians could not learn the most important lessons by merely copying the French. As previously described in Piaget’s theory of accommodation and assimilation where accommodation is the use of theories to help explain experience and assimilation is using experiences to create new or update existing theories. To maximize learning requires a balance between the dialectic of the two.

Scharnhorst and his contemporaries on the Reorganization Commission recognized the importance of generating their own concepts to improve the Prussian Army, even if they were shaped by the shared experience against the French. In *The Cognitive Challenge of War: Prussia 1806*, Peter Paret describes the reformers thought process. Paret writes, “But Scharnhorst and his associates aimed at more than Prussian versions of French methods. In their eyes, French strategy and tactics raised general issues, each more susceptible to more than one solution. . . . Learning was more than copying; it should lead to the development of new responses.”<sup>36</sup> The responses generated by Scharnhorst’s committee changed the Prussian Army, and their ripples are still seen in western armies today.

The reforms enacted by Scharnhorst and his committee were the active experimentation of their developed theories. This study focuses on three important areas of reform: education, doctrine, and the role of staff officers. Scharnhorst believed professional military education would provide the foundation for further reforms. As White explains, “without a program of formal

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<sup>35</sup> Robert M. Citino, *The German Way of War: From the Thirty Years’ War to the Third Reich* (Lawrence, KS: University Press of Kansas, 2005), 128-129.

<sup>36</sup> Peter Paret, *The Cognitive Challenge of War: Prussia 1806* (Princeton, NJ: Princeton University Press, 2009), 86-87.

education, the army's leadership would never be capable of coping with the changing conditions of modern war."<sup>37</sup> The pinnacle of this new formal education system was the Officer's War College, what would later become the famed *Kriegsakademie*.<sup>38</sup> The officers educated under the new system would support further reforms to the Command and Staff system and relationships.

Scharnhorst reformed the Command and Staff system within the Prussian Army to further address the changing conditions of modern war he observed. Leading huge and dynamic armies required better systems for command and control on the battlefield. The new concept assigned a small staff to assist commanders at the division, corps, and army level. At the corps and army level, this staff included a chief of staff to act as a personal advisor to the commander.<sup>39</sup> This system was an active experimentation based on Scharnhorst's own concrete experience during the War of the Fourth Coalition. Scharnhorst was unable to influence the Duke of Brunswick at Jena and later successfully paired with General L'Estocq to save the day at the battle of Eylau.<sup>40</sup> The experiment would prove successful. As Citino writes, "the Prussian command structure combined the man of action with the man of intellect in a highly potent mix."<sup>41</sup> The doctrine used by the potent mix was the last key piece of Prussian reforms.

The Reorganization Commission published two new manuals in early 1812, one for cavalry and one for infantry. The infantry manual was based on the existing theories of another Prussian General and member of Scharnhorst's military society. General Hans Yorck was a regimental commander who had begun experimenting with new tactics as early as 1806 after his own experiences with, and observations of, the French.<sup>42</sup> The 1812 regulation was another cycle

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<sup>37</sup> White, *The Enlightened Soldier*, 204.

<sup>38</sup> Citino, *The German Way of War*, 131.

<sup>39</sup> White, *The Enlightened Soldier*, 215.

<sup>40</sup> Citino, *The German Way of War*, 131.

<sup>41</sup> Ibid.

<sup>42</sup> Paret, *The Cognitive Challenge of War*, 91.

in Yorck’s learning. As Citino explains, the regulation of 1812 was, “as might be expected, an amalgam of old and new. Skirmishers, infantry columns, and the *ordre mixte* now made their appearance in Prussian garb. It stressed the combined arms, perceived as one of the most important French strengths, and tied cavalry and artillery more closely to the infantry support role.”<sup>43</sup> Figure 5 models the reforms of the Prussian Army after the experience of Jena and Auerstedt. Enacting the reforms based on new theories and prior experiences prepared the Prussian Army for an impending experience of war with Napoleon and the Grand Army.

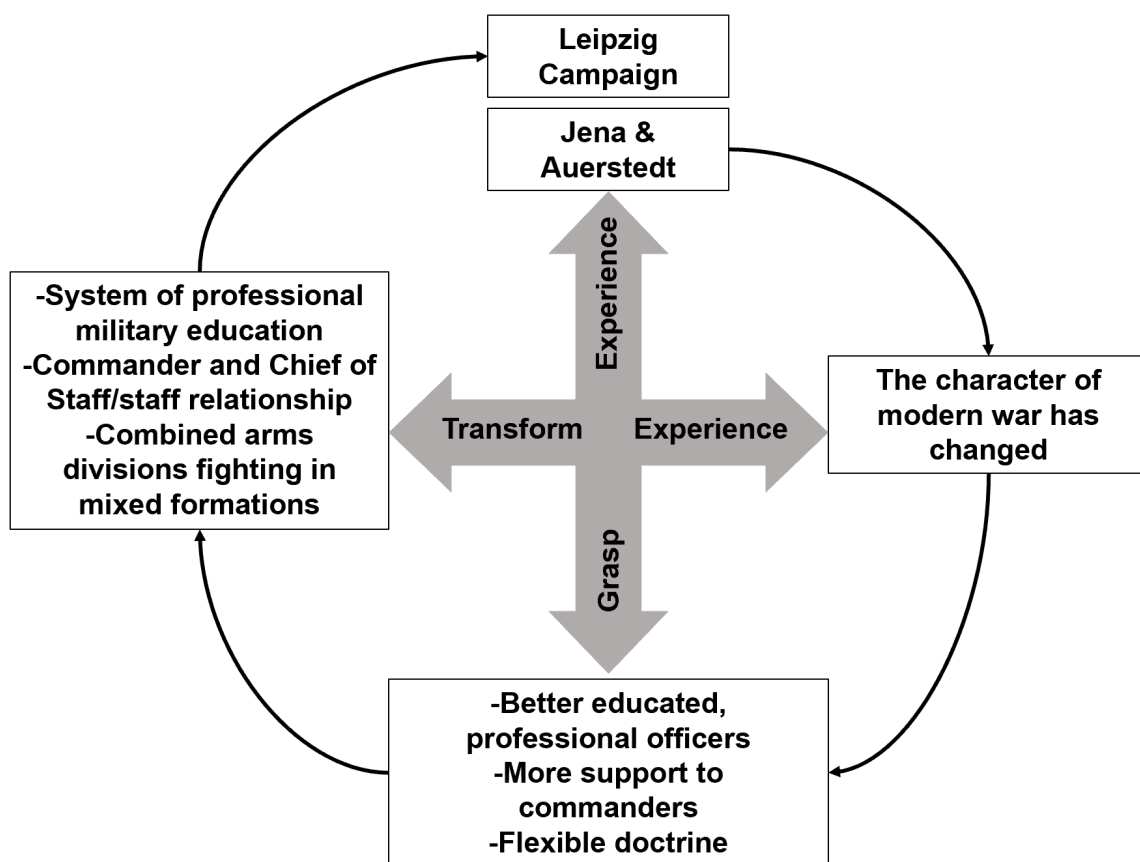


Figure 5. Prussian Army’s experiential learning from the disaster of Jena and Auerstedt. Created by the Author.

The Leipzig Campaign of 1813 saw the eventual liberation of Prussia. Although Scharnhorst died of wounds following the Battle of Lutzen, his legacy as the driver of the

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<sup>43</sup> Citino, *The German Way of War*, 130.

Prussian Army's reforms was secured. Perhaps Napoleon summed it up best when, following the battle he remarked, "Theses animals have learned something."<sup>44</sup>

## Doctrine

The doctrine section of this study focuses on Army publications that concentrate on unit and leader development, or organizational and individual learning. This section is not a historical analysis of CALL NTC trends. Although that analysis may be useful in framing the problem this study seeks to address, the scope of that kind of analysis does not fit the scope of this monograph. This section will answer the subsidiary research question of, how does the Army learn? Answering this question is important because it links the experiences taking place at NTC to the overall learning of the Army and allows for a comparison of how the Army believes it learns to the ELT described in the theory section.

## Army Learning Concept

In 2017 the US Army Training and Doctrine Command (TRADOC) published Pamphlet 525-8-2, *The US Army Learning Concept for Training and Education, 2020-2040* (ALC-TE). The ALC-TE identifies a problem for the Army. It asks, "how does the Army create a learning environment that develops agile, adaptive, and innovative, Soldiers and Army civilians with the competencies that build cohesive teams to win in a complex world?"<sup>45</sup> The ALC-TE describes the learning environment it seeks to create. It explains, "the environment is centered on the learner (learner-centric), who learns through a combination of training, education and experience through the three training domains of Army learning: operational, institutional, and self-development."<sup>46</sup> The ALC-TE graphical representation is represented by figure 6. The ALC-TE

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<sup>44</sup> White, *The Enlightened Soldier*, 234.

<sup>45</sup> US Department of the Army, TRADOC Pamphlet (TP) 525-8-2, *The US Army Learning Concept for Training and Education 2020-2040* (Washington, DC: Government Printing Office, 2017), 14.

<sup>46</sup> *Ibid.*, 15.

description of learning shares some common characteristics with the ELT. The ALC-TE describes learning as, “continuous and progressive in that the learner relies on a close coordination of training and education, coupled with gains in experience.”<sup>47</sup> The forward of the ALC-TE by General David G. Perkins also bears similarities to the ELT.

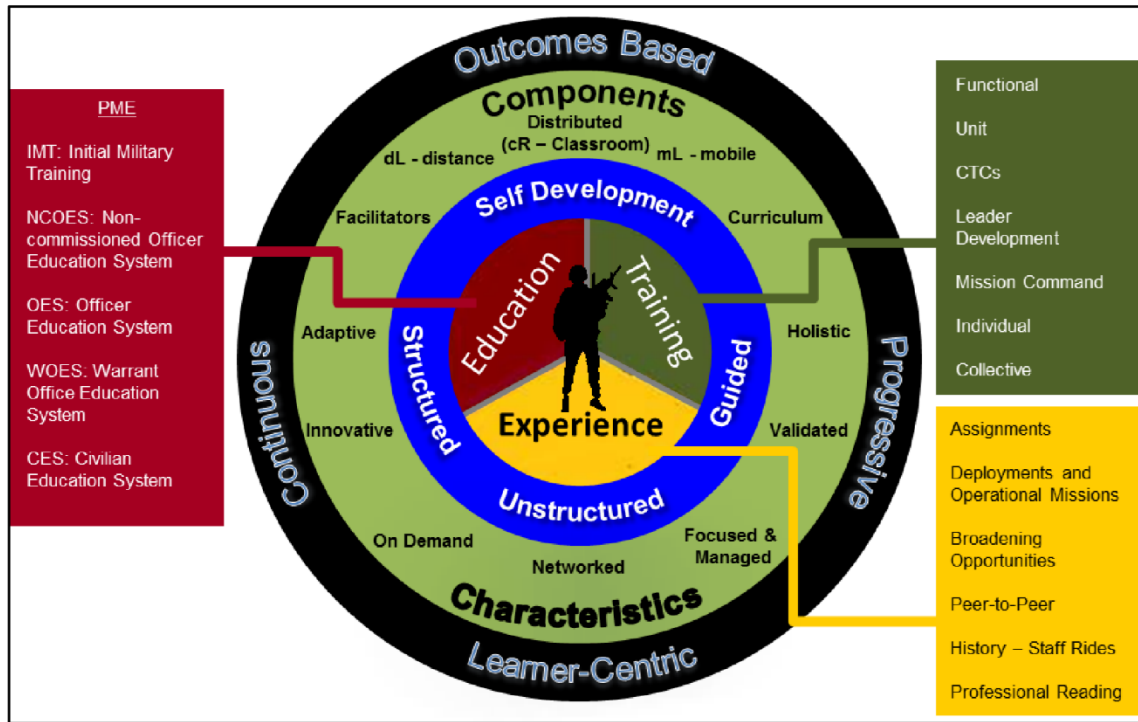


Figure 6. The Army learning environment. US Department of the Army, TRADOC Pamphlet (TP) 525-8-2, *The US Army Learning Concept for Training and Education 2020-2040* (Washington, DC: Government Printing Office, 2017), 15.

The forward of the ALC-TE describes future training and education as helping Army leaders to “*think* clearly about future armed conflict across the human dimension, *learn* about the future by optimizing leader development, *analyze* learning outcomes, gaining intellectual and cognitive advantages over future adversaries, and *implement* outcomes to refine training and education.”<sup>48</sup> The four key words in the previous quote, italicized in the ALC-TE, link the Army’s future learning environment to Kolb’s ELT.

<sup>47</sup> US Army, TP 525-8-2, 15.

<sup>48</sup> Ibid., iii.

The words emphasized in the forward of the ALC-TE; think, analyze, and implement relate directly to two of ELT's four phases while learn obviously encompasses the overall purpose of ELT. The use of think relates the ALC-TE to the abstract conceptualization phase of the ELT. Kolb uses the word think himself to describe abstract conceptualization. Kolb writes, "an idealized learning cycle or spiral where the learner 'touches all the bases'—experiencing (CE), reflecting (RO), thinking (AC), and acting (AE)—in a recursive process that is sensitive to the learning situation and what is being learned."<sup>49</sup> The use of analyze links active conceptualization to active experimentation while implementing describes active experimentation. The forward of the ALC-TE leaves out concrete experience and reflective observation as areas of emphases for the future learning environment. Although thinking is mentioned, thinking means contemplating a future event, while reflection refers to a past event. The lack of an emphases on the need for reflection is a common theme in the ALC-TE.

The lack importance placed on reflection leaves the Army vulnerable to not effectively learning from experience. In the Dewey model of experiential learning (figure 2), impulse drives only one aspect of learning. As learners we want to get to the next experience but will never learn as much as we can without delaying the next impulse for reflection. The ALC-TE appears to forego the importance of reflection when it states, "the Army is a learning organization that learns by repetitive execution to establish standards in increasingly complex scenarios."<sup>50</sup> The ALC-TE states the Army is learning organization multiple times, but never states specifically what a learning organization does or does not do.

Peter Senge is best known for his national bestselling work *The Fifth Discipline: The Art and Practice of the Learning Organization*. In *The Fifth Discipline* Senge describes five disciplines that make a learning organization. The five disciplines are systems thinking, personal

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<sup>49</sup> Kolb, *Experiential Learning* (2015), 51.

<sup>50</sup> US Army, TP 525-8-2,10.

mastery, mental models, building a shared vision, and team learning.<sup>51</sup> Just as important for this study are two of the organizational learning disabilities Senge identifies. Senge's organizational learning disabilities help link the ideas found in US Army doctrine to ELT. The two learning disabilities are the fixation on events and the delusion of learning from experience. ELT serves as a lens to understand Senge's learning disabilities as well.

Senge's organizational learning disability, the fixation on events is recognizable to any staff officer used to constantly putting out fires. Senge describes an organization with the fixation on events learning disability as conditioned by events and viewing each event as having a single obvious cause. This concept of event explanation distracts organizations from, as Senge writes, "seeing the longer-term patterns of change that lie behind the events and from understanding the causes of those patterns."<sup>52</sup> Focusing on short-term events cripples learning. It is the equivalent of the ELT cycle wound so tightly that learning cannot take place between concrete experiences. As Senge explains, "If we focus on events, the best we can do is predict an event before it happens so that we can react optimally. But we cannot learn to create."<sup>53</sup> The other learning disability that relates to ELT also relates to understanding the importance of time in the learning process.

Senge's other learning disability that bears importance on this study appears, at first, to be a counter argument to ELT. Senge titles the disability, the delusion of learning from experience. In describing the delusion of learning from experience Senge admits, "the most powerful learning comes from direct experience."<sup>54</sup> He also asks, "what happens when we can no longer observe the consequences of our actions?"<sup>55</sup> This is a critical question within the Army learning environment. How can units be learning organizations when they turn over all their

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<sup>51</sup> Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization*, rev. ed. (New York: Crown Business, 2006), 6-9.

<sup>52</sup> Senge, *The Fifth Discipline*, 21.

<sup>53</sup> *Ibid.*, 22.

<sup>54</sup> *Ibid.*, 23.

<sup>55</sup> *Ibid.*

leaders ever two years? If the Army is not a learning organization in the traditional sense, then how can it continue to learn from experience?

## Additional Publications

The CALL published a document in October 2019 titled *Working to Reverse NTC's Routinely Observed Training Shortcomings: Recommendations for Commanders to Consider during Home Station Training*. The document reads like an open letter from NTC Operations Group to unit commanders. It focuses on key concepts and recommends questions every commander should ask themselves while training at home station. The first key concept in *Working to Reverse NTC's Routinely Observed Training Shortcomings* is mastering the fundamentals.

Mastering the fundamentals as the first key concept to reverse training shortcomings is important because it connects to what makes a learning organization. As discussed in the previous section, the ALC-TE refers the Army as a learning organization multiple times but does not state what makes a learning organization, Senge does in his book *the Fifth Discipline*. As the previous section mentions, one of the five disciplines that Senge believes create a learning organization is personal mastery. Senge describes personal mastery as, “the discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively.”<sup>56</sup> NTC Operations Group recommends questions commanders should ask themselves to focus the energies of their units and develop patience.

NTC Operations Group recommends a commander ask his or herself five questions to assess their training plan and focus on mastering the fundamentals. The first question is, “have I focused collective training in my organization on the fundamental battle tasks (platoons and lower) and METs (company and higher) we [*sic*] must accomplish at echelon to be successful

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<sup>56</sup> Senge, *The Fifth Discipline*, 7.

against a near peer threat in a Decisive Action Training Environment?”<sup>57</sup> This question demonstrates the need for commanders to clarify their vision and focus their energies on what is really important. Operations Group drives this point home further in the mastering the fundamentals section when it cites Army Doctrine Publication (ADP) 7-0, *Training*. ADP 7-0 states, “units cannot simultaneously train every task to standard because of mission, time, or resource constraints. Attempting to train too many tasks to proficiency only serves to diffuse the unit’s training effort.”<sup>58</sup> The next three questions, Operations Group recommend commanders ask, incorporate the ideas of ELT into the already present concept of mastery.

ELT serves as a lens to view the next three questions NTC Operations Group recommends commanders ask themselves when formulating their home station training plans. The three questions are:

1. Once task focus has been achieved, have I geared the training program in my organization, at echelon, to allow the repetitions required to achieve true mastery of these tasks under battlefield conditions?
2. Have I allowed time for critical re-training at lower echelons?
3. Am I moving my formation to the next level (SQD, PLT, CO, BN) too quickly or am I prudently accepting risk to re-train deficiencies at a later point?<sup>59</sup>

Each of these three questions stress to the commanders the importance of slowing down to make sure his or her units have achieved mastery. The repetitions required to learn, with the goal of achieving mastery, bear a direct connection to ELT. It takes time for members of a unit to reflect

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<sup>57</sup> NTC Operations Group, *Working to Reverse NTC’s Routinely Observed Training Shortcomings* (Fort Leavenworth, KS: Center for Army Lessons Learned, 2019), 1.

<sup>58</sup> US Department of the Army, Army Doctrine Publication (ADP) 7-0, *Training* (Washington, DC: Government Printing Office, 2017), 4-3.

<sup>59</sup> The NTC Operations Group, *Shortcomings*, 1.

on their experience, further grasp what happened through abstract conceptualization, and decide on ways to make their unit better through active experimentation. Sometimes not completing an extra repetition is ok, if it means the unit has time to progress through the ELT cycle as part of a retraining process. Moving a unit to an increasing difficult event too quickly compresses the ELT cycle and prevent the critical steps required to grasp and transform the experience into new knowledge. Operations Group is also pushing commanders to lead learning organizations, even if not explicitly stating it, by urging them away from the fixation on events learning disability.

## Organizational Learning vs Individual Learning

Senge discusses personal mastery as a discipline of organizational learning, but how can an organization learn if its personnel are constantly changing out for new, less experienced personnel? Can a unit ever strive for organizational mastery if it does not maintain the personnel in key leadership positions long enough to, continually clarify and deepen a vision, focus energies, and develop patience.<sup>60</sup> Thomas P. Odom, the CALL liaison to the Joint Readiness Training Center (JRTC), theorizes on the disconnect between individual and organizational learning in the *JRTC COG Issues and Trends 1st and 2nd Quarters FY 2019*. Odom first identifies the problem when he writes, “Over the 19 years, 190 rotations, 3 dozen trends collections, and another 150+ handbooks and newsletters compiled on issues at the JRTC, let me say that we have never reversed a single trend.”<sup>61</sup> Odom continues,

What then is the root cause of this seemingly fruitless struggle to improve our collective training as a fighting Army? The answer is basic: our personnel system focuses on the individual instead of the unit. We create superb leaders with tremendous experience. Yet our units from squad to corps develop almost no collective experience longer than a year. In truth, the continuity inside a division, brigade, battalion, or company is far shorter than a year. No CEO in his right mind would tell everyone to change jobs every year; we do just that in the Army. Whether two, three, or more years per assignment, we change jobs almost every year. Put another way, we discard the collective experience of 10 x 25

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<sup>60</sup> Senge, *The Fifth Discipline*, 7.

<sup>61</sup> JRTC Operations Group, *JRTC COG Issues and Trends 1st and 2nd Quarters FY 2019* (Fort Leavenworth, KS: Center for Army Lessons Learned, 2019), 1.

million dollar training rotations per year only to start all over again, every year for every unit.<sup>62</sup>

Odom fails to offer a solution to the disconnect between a personnel system that focuses on the individual over the unit and need for collective experience. One can safely assume Odom would prefer stabilizing Soldiers and leaders in place longer. This is not a study of the Army Personnel system and its effects on unit learning at CTCs, but one of Odom's points is relevant to this study and Army doctrine. The Army is not a company with a CEO driven, even obligated, to generate profit. The Army fights wars. In war soldiers become killed and wounded, leaders are rapidly promoted to positions of greater responsibility, often in different units, and replacements arrive. The Army cannot afford to focus on unit mastery of task. It must improve the learning process within and between units.

Carey Walker and Matthew Bonnot researched improving learning at the individual level for their 2016 Army Press Online Journal article, "A Better Approach to Developing Leaders." Their article provides a framework for how the Army can extend the learning process started at NTC. Walker and Bonnot use the Center for Army Leadership Annual Survey of Army Leadership (CASAL) as the bases for their argument that the Army needs to improve its leader development approach. In this article Walker and Bonnot explain, "leaders are *learning by doing* according to the CASAL survey through leading others, on-the job training, and operational experience."<sup>63</sup> The learning is taking place despite the leader competency "develops others" having the lowest rating of any of the competency on the CASAL since 2006.<sup>64</sup> The problem is, although leaders are learning from experience they are not doing so to their full potential. Walker

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<sup>62</sup> Ibid.

<sup>63</sup> Carey Walker and Matthew Bonnot, "A Better Approach to Developing Leaders," *Army Press Online Journal* (April 2016): 1.

<sup>64</sup> Ibid.

and Bonnot believe the Army is struggling with leader development because the organization does not understand the importance of experiential learning.<sup>65</sup>

Walker and Bonnot recommend a two-phase approach to leader development. The phase deals directly with experience and how leaders view experience. Walker and Bonnot write, “the objective is to treat experience as a means to an end by assessing individual and unit leadership needs and integrating them with organizational learning opportunities to create challenging developmental leadership experiences.”<sup>66</sup> The second phase is essentially the application of ELT to leader development. Walker and Bonnot use the phrase meaning making cycle, represented in figure 7. They explain, “making sense of an experience requires interpretation of the event to create personal understanding. This process is known as *meaning making*, which requires observation, feedback, dialogue, and reflection.”<sup>67</sup> The two-phase approach to leader development provides a useful framework for extending the learning process that begins at NTC.

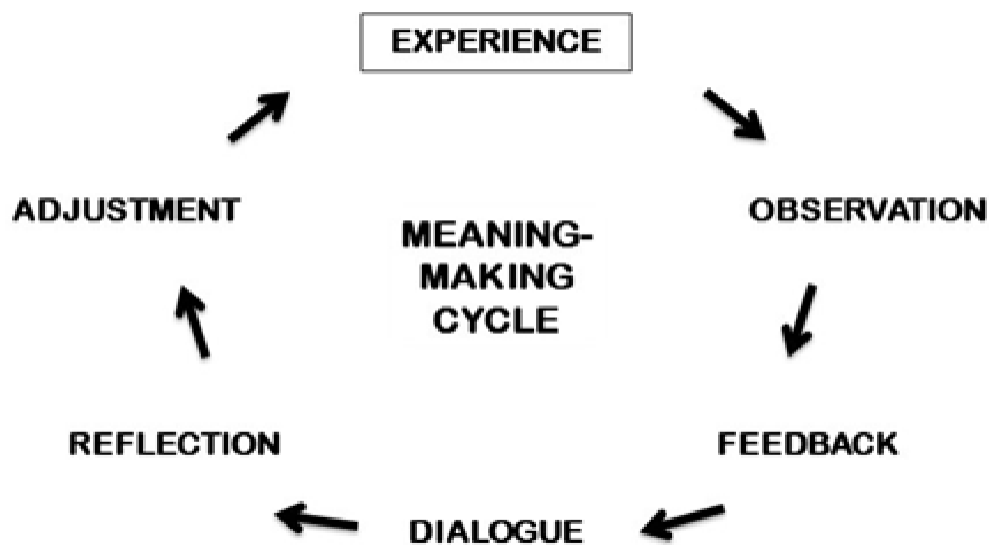


Figure 7. The Meaning-Making Cycle. Carey Walker and Matthew Bonnot, “A Better Approach to Developing Leaders,” *Army Press Online Journal* (April 2016): 8.

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<sup>65</sup> Ibid.

<sup>66</sup> Walker and Bonnot, “A Better Approach to Developing Leaders,” 1.

<sup>67</sup> Ibid.

## Analysis and Implications

The analysis and implications section of this study answers the third subsidiary research question, how can an NTC rotation, as a learning event, benefit the entire Army? This section covers three key ideas. The first part focuses on how the Army can harness the power of the ELT cycle. The second part of this section examines how slowing down the rate of experiences improves learning. The third and fourth parts of this section examine how sharing ELT cycles between units can extend the learning process started at NTC.

### Learning as an Organization: Harnessing the power of the ELT cycle

Walker and Bonnot touch on important ideas in their two phased approach to leader development. The first phase is to treat experience as a means to an end by assessing and integrating the needs of the leader to the needs of the organization. Applying this same idea to organizational learning instead of leader development and incorporating the concept of the ELT cycle yields opportunities to improve how the Army learns. The Army must begin to treat each NTC rotation as a means to an end by assessing and integrating the needs of the RTU with the overall needs of the Army. In other words, each NTC rotation can serve as a new concrete experience in the ELT cycle of the Army. This does not mean that each NTC rotation or concrete experience is meant to derive new trends that units are supposed to reverse over time. Instead the rotation is a tailored experience to test (active experimentation) a theory or hypothesis (abstract conceptualization) developed by reflecting on previous experiences (reflective observation). A brigade from one of III Corps' divisions recently conducted training events that fit this model at the Joint Readiness Training Center.

Following the Corps Mission Command Training Program Warfighter 19-04 III Corps reflected on how to improve the Corps' ability to conduct reconnaissance and how to better secure its consolidation area. Members of the Corps staff theorized an entire brigade combat team dedicated to the reconnaissance fight would improve the Corps Commander's understanding and

ability to make decisions. The Corps staff also hypothesized an infantry brigade combat team dedicated to managing and securing the Corps consolidation area would yield better results than the maneuver enhancement brigade traditionally dedication to the consolidation area mission. To test these theories III Corps recommended changes to two of its subordinate brigades' combat training center rotations. To test using an entire brigade for Corps reconnaissance 3rd Cavalry Regiment's NTC rotation, rotation 20-02, would become reconnaissance and security focused rotation. To test using an infantry brigade combat team as the consolidation area force 2/4 Infantry Division's JRTC rotation, also rotation 20-02, would become a consolidation area focused rotation.<sup>68</sup> The III Corps experience exemplifies the process Kolb described in the theory section of this study; hypotheses serve as guides to create new experiences. The ELT cycle of III Corps is represented by figure 8.

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<sup>68</sup> III Corps' Warfighter experience and their plan to test reconnaissance and consolidation area theories developed during after action reviews came from a conversation with the III Corps Operations Officer, Colonel Brian Payne, at the time of Warfighter 19-04. The conversation took place November 19, 2019.

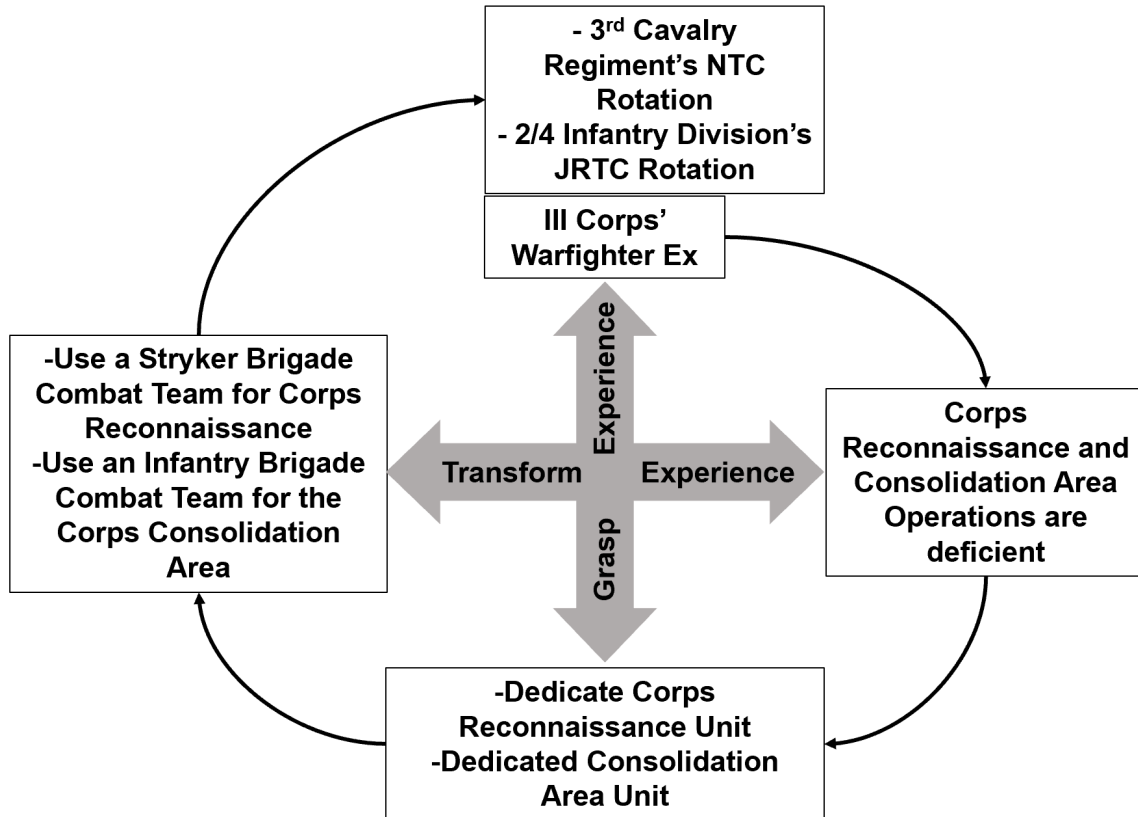


Figure 8. III Corp's experiential learning from Warfighter 19-04. Created by the Author.

In November 2019, 2/4 Infantry Division conducted the first JRTC rotation with the RTU operating in a consolidation area.<sup>69</sup> Using a combat training center rotation to train the unit *and* test the theories of a previous concrete experience is an example of applying Walker and Bonnot's concepts for improving leader development to organizational learning. The III Corps' 2/4 Infantry Division experience is also a successful example of the ELT being applied, even if it was unwittingly, to a series of major training events to benefit the entire Army.

Unfortunately, NTC rotation 20-02 did not focus on a Stryker Brigade Combat Team conducting reconnaissance and security for a higher headquarters. The 3rd Cavalry Regiment conducted a standard decisive action training environment rotation to meet training requirements

<sup>69</sup> The CALL products outlining the lessons learned from JRTC Rotation 20-02 are not available at the date of this study. The information about JRTC Rotation 20-02 came from an Email conversation between the Author and Major Tyler Vest, the Operations Officer for JRTC Operations Group Plans/Exercise Control section.

for an upcoming deployment. NTC is not the National Experimentation Center, but experimentation should play a larger role in each rotation.<sup>70</sup> Treating each rotation as a means to an end by assessing and integrating the needs of the RTU with the overall needs of its higher headquarters and the Army requires fewer rotations. There are large units stationed at NTC, including NTC Operations Group, 11th Armored Cavalry Regiment, and 916th Support Brigade, that play key roles in each rotation and require time to plan, prepare, execute, and assess constantly. NTC and the units involved in each rotation need time to design rotations that met higher headquarters and Army needs.

### Reducing the rate of experiences to increase learning

Slowing the rate of NTC rotations allows for more opportunity to learn from NTC rotations. This goes beyond the adage of quality over quantity. As Senge writes in description of the fixation on events organizational learning disability, “generative learning cannot be sustained in an organization if people’s thinking is dominated by short-term events.”<sup>71</sup> Viewed through the lens of ELT this means that less rotations means less concrete experiences to learn from, but it also means more time to reflect, to theorize, and to experiment with lessons learned. This time is not just valuable for the RTU that experienced NTC rotation. More time for reflective observation, abstract conceptualization, and active experimentation has second and third order effects with that improve learning.

With less NTC rotations more units will be able to “plug” into the most recent concrete experience of the RTU with the support of units who shared the experience. Units on the periphery of the concrete experience like NTC Operations Group and 11th Armored Cavalry Regiment (OPFOR) are key players to extending the learning process. More time between

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<sup>70</sup> This rejection of NTC as the national experimentation center came during a phone conversation with COL Michael Simmering, the Operations Group Commander at NTC. The conversation took place November 23, 2019. The conversation focused on how learning from NTC rotations can be improved.

<sup>71</sup> Senge, *The Fifth Discipline*, 22.

rotations for Operations Group and the 11th Armored Cavalry Regiment (OPFOR) means more time to reflect, conceptualize, and experiment with the entire Army. A better, more developed ELT cycle means better rotations, integrating the needs of each RTU with more specific needs of higher headquarters and the Army, and escaping the ever-present learning disability of the fixation on events.

## Opening up to share the ELT Cycle

The Operations Group and 11th Armored Cavalry Regiment (OPFOR) are not the only units and organizations on the periphery of the RTU. Other brigade combat teams and echelon above brigade units can also benefit from “plugging” into the ELT cycle of RTUs. Divisions are already sharing lessons learned with other divisions following warfighter exercises to help improve others. As Simmering stated in his October 15, 2019 tweet, “Our Divisions have gotten exponentially better because CDRs are sharing info from WFX experiences openly.”<sup>72</sup> Brigade combat teams and NTC must start sharing their experiences to improve learning. As Kolb writes, “experience is the focal point for learning, giving life, texture, and subjective personal meaning to abstract concepts and at the same time providing a concrete, publicly shared reference point for testing the implications and validity of ideas created during the learning process.”<sup>73</sup> As discussed in the theory section of this study, sharing reflections and observations increases learning because people and organizations experience and observe things differently. NTC and RTUs can start this process now by sharing observations and unit take home packages with the whole Army.

Each RTU receives a take home package at the end of an NTC rotation. The Forces Command regulation that governs training at NTC states, “take home packages provide training

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<sup>72</sup> Michael Simmering, Twitter Post, October 17, 2019, 2009hrs, accessed October 17, 2019, <https://mobile.twitter.com/simmering216/status/118499997114404864>.

<sup>73</sup> Kolb, *Experiential Learning* (2015), 32.

tools for the chain of command to refine homestation individual and unit training programs.”<sup>74</sup>

The take home packages are not actually that valuable to the RTU that has just completed a concrete experience. This unit is most vulnerable, probably unavoidably vulnerable, to Senge’s learning disabilities. The unit is fixated on events like reset, upcoming deployments (the reason the unit conducted an NTC rotation in the first place), or changes of command. This last point, changes of command, links to Senge’s other learning disability, the delusion of learning from experience. The take home packages are extremely valuable to the other brigade combat teams preparing for their own NTC rotations.<sup>75</sup> As depicted in figure 9, sharing take home packages would extend the valuable learning taking place at NTC by plugging new units into existing ELT cycles. Unfortunately, if the RTU that has just completed an NTC rotation is too consumed by events to learn from its own experiences than how is it expected to pass the experiences of a rotation to another unit?<sup>76</sup>

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<sup>74</sup> US Army Forces Command, FORSCOM Regulation 350-50-1, *Training at the National Training Center* (Fort Bragg, NC: US Army Forces Command, 2018).

<sup>75</sup> The importance of the take home packages of one brigade combat team to the homestation training of a different brigade combat team came during a phone conversation with COL Michael Simmering, the Operations Group Commander at NTC. The conversation took place November 23, 2019. The conversation focused on how learning from NTC rotations can be improved.

<sup>76</sup> The inability of an RTU to share after an NTC because of other events came during a phone conversation with COL Michael Simmering, the Operations Group Commander at NTC. The conversation took place November 23, 2019. The conversation focused on how learning from NTC rotations can be improved.

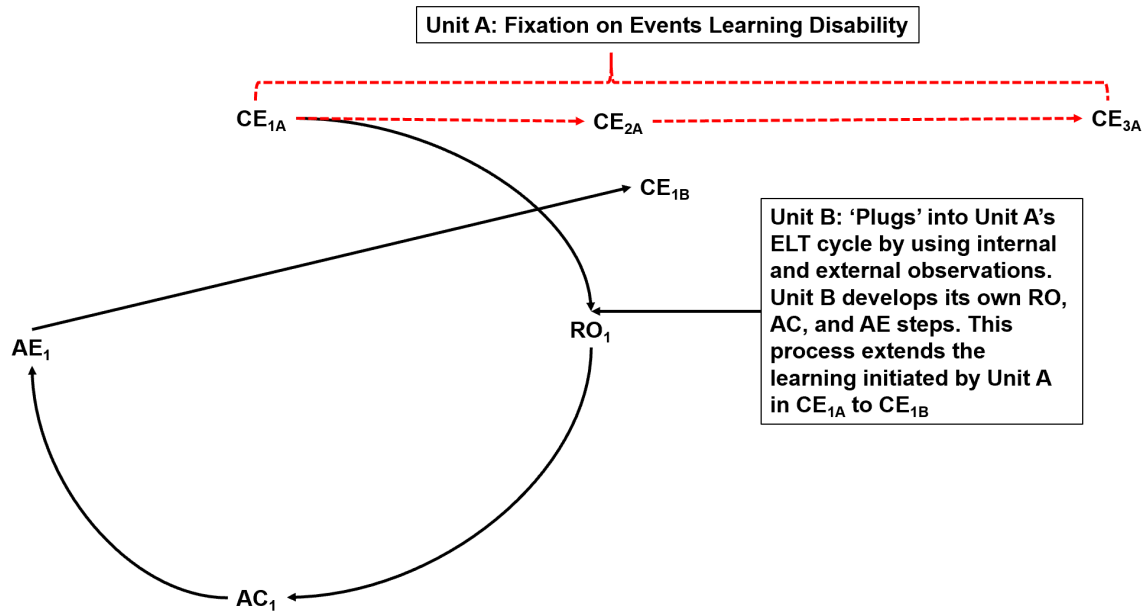


Figure 9. Sharing the ELT Cycle to extend the learning process. Created by the Author.

## Supporting units through the ELT cycle

If RTUs are too consumed by events to properly share their own experience, reflections, and observations with other units than how can a new unit properly develop their own theories and experiments? Someone or some organization needs to facilitate the “plug in” process. It is not enough to assume, or even tell, the follow-on units insert themselves in the learning process of a previous RTU. The Walker and Bonnot article about a better approach to developing leaders provides a framework for extending the learning take place at NTC.

Walker and Bonnot define two phases to leader development. The first, assessment and integration phase, is discussed in the learning as an organization subsection of this analysis and implications section. The second, meaning making phase, provides a framework for how the Army and NTC can support units to extend the learning taking place at NTC once sharing of information is greatly increased. Simply setting the conditions for learning by making information available is not enough. Walker and Bonnot observe this phenomenon in leader development. They observe, “many senior leaders believe leader development is happening because they are setting the conditions for it to occur . . . senior leaders believe subordinates

should be able to reflect on the experiences and take appropriate action to adjust their behavior and thinking—the epitome of personal self-development.”<sup>77</sup> Of course, as this study demonstrates, effective learning does not happen solely because of an experience.

Utilizing the meaning making phase of leader development as a framework to extend learning started at NTC is the step needed to grow from believing that learning is taking place to driving the learning process. Walker and Bonnot’s meaning making phase consist of a six-step cycle. The meaning making phase is represented in figure 9. Like the ELT cycle the first step is the experience.

The second step in the cycle is observation. Walker and Bonnot stress that their observation step is coming from someone outside the personal experience of the leader, a superior, peer, or follower. Since this study is focused on learning beyond leader development a modification of Walker and Bonnot’s ideas is needed. This study will continue to use unit A, an RTU recently complete with its NTC rotation, and unit B, a unit preparing for an NTC rotation. In the situation of unit B “plugging” into unit A’s ELT cycle from NTC observations would be the take home packages and Operations Group observations.

The third step is feedback. This is the step where outside participation to drive learning increases. Walker and Bonnot explain the feedback when they write, “observers share comments on what they saw. The superior should put the comments in context with the purpose of the activity and the expected outcomes. If it is a collective activity, the feedback will most likely come in the form of an after action review.”<sup>78</sup> In the case of unit A and unit B the superior would be an outside organization, like a specialized NTC Operations Group training team. Audio or visual recordings of unit’s A after action reviews would be shared openly with unit B, guided by the “superior” and supporting observations from unit A’s rotation to build understanding.

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<sup>77</sup> Walker and Bonnot, “A Better Approach to Developing Leaders,” 4.

<sup>78</sup> *Ibid.*, 8.

The fourth step in the meaning making cycle is dialogue. During the dialogue step the receiving unit, in this example unit B, continues to develop understanding and take ownership of the meaning making cycle, and therefore the learning cycle. As Walker and Bonnot explain, “dialogue means two-way communication, and includes active listening to reach shared understanding . . . without interaction, learning is sterile and passive, never fundamentally changing the learner.”<sup>79</sup> From the dialogue step unit B can begin its own path to further developing the learning process.

Walker and Bonnot call the last two steps in the meaning making cycle reflection and adjustment. In the case of unit A and unit B the reflection step could be interpreted as the reflective observation step of the ELT cycle. The adjustment step can be interpreted as the abstract conceptualization and active experimentation steps of the ELT cycle, developing new theories and testing them through experiments is fundamentally an adjustment to prior behavior.

The entire situation of unit A and unit B that began in the previous section is graphically represented in figure 10 by adding the meaning making cycle to the shared ELT cycle represented in figure 10.

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<sup>79</sup> Walker and Bonnot, “A Better Approach to Developing Leaders,” 9.

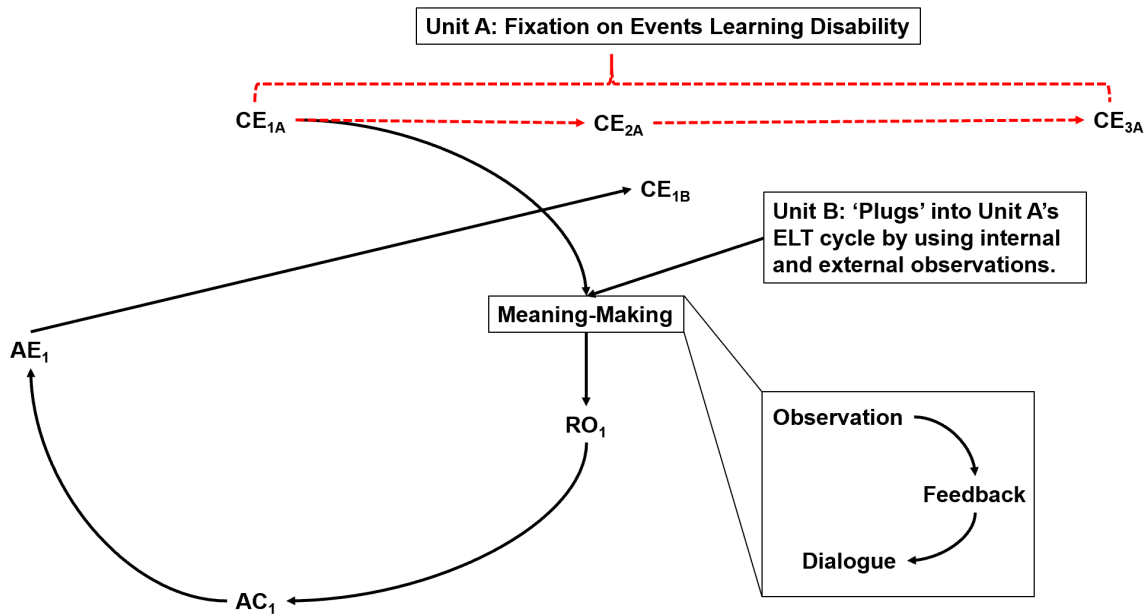


Figure 10. Using Meaning-Making to drive learning. Created by the Author.

The meaning making phase is the heart of the learning process according to Walker and Bonnot. To Walker and Bonnot meaning making relies on, “a supportive command climate to capture knowledge and apply judgement to create understanding from the experience.”<sup>80</sup> Support to create meaning making is exactly what units ‘plugging’ into the ELT cycle of other units need to effectively extend learning. Units would benefit greatly from having an outside organization to help them learn from others experience. Just like units benefit from having outside organizations assess their internal processes.

## Recommendations

The recommendations section answers the primary research question of this study, how can the US Army manage NTC rotations as learning events for the Army instead of training events for the RTU to increase the benefit of each rotation for the whole Army? To answer this question the US Army must embrace every facet of experiential learning to extend the process started at NTC. The ELT cycle serves as a framework to guide the changes needed. The following

<sup>80</sup> Walker and Bonnot, “A Better Approach to Developing Leaders,” 8.

recommendations based on this study are ways for the Army to begin effectively learning from NTC rotations and starting points for further research on this topic.

Harness the Power of the ELT Cycle. The Army must give primacy to the reflective observation, abstract conceptualization, and active experimentation stages of the ELT cycle. Experience is great, but what ideas lead to an experience and came from the experience is more important. The ideas of the leaders and soldiers following an NTC rotation are an opportunity to enact change. This idea is central to the other recommendations of this study.

Share experiences openly and fully. To prevent the learning that took place from an experience being lost or underdeveloped it must be shared openly and fully. The concrete, publicly shared, reference point for testing the implications and validity of ideas discussed by Kolb is impossible without full and open sharing of experiences. Combing and filtering experiences and observations for future publication only waters down the effectiveness of the learning process. NTC should post all rotational information on a common access card secured website. This information includes all rotational design products and rotation event data, like battlefield summary videos, for consumers' situational awareness as well as all post rotation after action reviews and take home packages. All digitally recorded information will be particularly useful so consumers can essentially "sit-in" on other units' self-assessment process. When members of Operations Group travel to support units during home station training, they will use the same unfiltered, unsterilized information. This level of openness will require a shift in culture, but it is critical. Commanders and units must put ego aside and understand their experiences, be it a failure or a success, is enhancing learning across the Army.

Guide leaders and units through the ELT cycle. Just because the conditions are set and an opportunity is there, does not mean that someone, or an organization, will take advantage of it. There needs to be an external organization that guides units through the ELT cycle, whether it is based on their own experience or others. We have Operations Group to support the RTU during the concrete experience stage of the ELT cycle, but no one to guide the process beyond that. The

Army must create, or repurpose, a unit that can support RTUs after their experiences have ended or when a unit is “plugging” into another unit’s ELT cycle. The NTC Operations Group is the unit best situated to guide others through ELT cycles. Operations Group shares in the experience to begin with so learning would remain efficient. Operations Group teams would move around the country to different units like the Mission Command Training Program teams. Operations Group team visits would serve one of two purposes. The first type of visit would be a follow up with an RTU that had recently completed a rotation. Operations Group would support the unit to ensure it was moving effectively through the remainder of its ELT cycle. The second kind of visit would be a “plug-in” visit. Operations Group would facilitate meaning making for a unit training up for its own rotation. As discussed in the previous section, meaning making enables a unit to “plug” into the ELT cycle of another unit and extend the learning that has already begun. This step will also require a culture change. Commanders are responsible for ensuring their units are trained, but that does not mean they could not use some support to increase the effectiveness of learning.

Slow down to speed up learning. An organization consumed by events cannot effectively learn from those events. As Kolb and Lewin point out, a certain level of detachment from experience is required to learn effectively. The slowing down of events goes beyond the RTU experiencing a rotation. The supporting units on the peripheries, CALL, and follow on RTUs will all benefit from less experiences and an opportunity to engage with the other stages of the ELT cycle. In order to make the previous two recommendations a reality, something must give. For example, Operations Group cannot design brand new rotations based on a Corps or Division active experimentation while simultaneously traveling to check in on a unit that recently completed a rotation and a unit training for their own rotation using the ELT cycle based on a different unit’s experience. Fully and openly sharing experiences and supporting units through their ELT cycle are events in themselves. Without reducing, or at least maintaining the number of events NTC is vulnerable to being overcome by a fixation on events.

## Recommend further research

This study focuses on how to extend learning for the Army as an organization. However, as discussed in the doctrine section, the Army is a unique organization. Leaders and members within the organization are constantly moving between sub-organizations and into new positions. If this study focuses on extending the learning process horizontally between units in hopes that learning will build on itself and improve over time, then further research is required on vertical learning. Explicitly vertical learning overtime. In other words, how can the Army extend the learning process that begins at NTC for the individual platoon leader or rifleman on his or her first rotation? The discourse step of meaning making is the most obvious step. Just like a unit can plug into another units ELT cycle through meaning making an individual can plug into other individuals learning cycle. Further research should explore the best way to extend learning vertically through an individual's career.

## Conclusion

This monograph answered the research question of, how can the US Army manage NTC rotations as learning events for the Army instead of training events for the RTU to increase the benefit of each rotation for the whole Army? By viewing each rotation as a concrete experience through the lens of ELT this study recommends the Army must focus as much effort and resources on the other three stages of the ELT cycle. Giving primacy to the reflective observation, abstract conceptualization, and active experimentation stages of the ELT cycle will enable the Army to learn more during this important transition from unified land operations to multi-domain operations.

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