Live, Virtual, Constructive-Integrating Architecture (LVC-IA)

Integrated Training Environment (ITE)

Pre-Fielding User Assessment
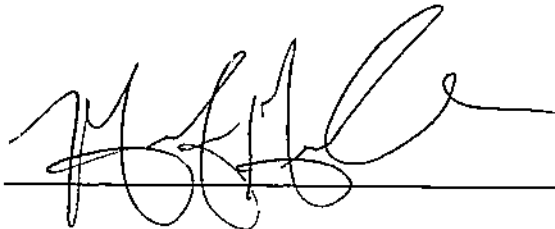
Training Support Analysis & Integration Division

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Executive Summary

The Army Training Support Center (ATSC), Training Support Analysis and Integration Division (TSAID), was tasked by CAC-T to perform an independent review to assess the training value of the Integrated Training Environment (ITE) from the users' perspective. As part of this effort, ATSC (TSAID) used feedback from the First Use Assessment (FUA) to obtain the initial user observations of the ITE, which is enabled by the Army's Live, Virtual, Constructive-Integrating Architecture (LVC-IA). The FUA feedback will be the first data point of an overall assessment that will require multiple collections of user feedback. In this report the feedback is summarized into benefits, limitations, and concerns to capture what was beneficial or what needs improvement according to the initial set of users.

Overall, the findings indicate that training in an integrated environment was beneficial to the Brigade (BDE) and Battalion (BN) staffs in helping them realize the goals and prospective benefits stated in the NSC Master Implementation Plan (2010). Major benefits are indicated below:

- The BDE and BN noted that the ITE allowed them to utilize more of the Ft. Hood training area, thus expanding the battlespace and the areas of operation.

- Using the ITE enabled both the BDE and BN to approximate the operational environment and enhance the battle staff proficiency.

- The BN leadership reported they were able to train multiple warfighting functions (see the NSC Accreditation Report (2012) for details).

While the ITE provided several benefits, it also resulted in one limitation that must be resolved:

- Lengthy wait times for call for fire missions or cancellation of the missions.

NSC has already identified the need to fix this limitation, which by fixing will mitigate the problems and improve the user experience.

Ideally, the Company Commanders should not see a difference in training in an Integrated Training Event (ITEV) event. During week 3 the Company Commanders reported that besides adjustments to the LVC-IA, they did not see much difference in their training in comparison to training in a single LVC environment.

Based on this initial user feedback, by resolving the aforementioned limitations, leveraging the ITEV for training will be beneficial for the BDE and BN staffs without impacting the training at the Company level.

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Background

Over the past three years, the Army has focused on building an Integrated Training Environment. That initiative led to many new concepts and terms such as, Blended Training, Live Virtual and Constructive – Integrating Architecture (LVC-IA) as well as the Integrated Training Event (ITEV). The ITEV is the integration of training aids, devices, simulations and simulators (TADDS) available to support individual and multi-echelon collective training. The ITEV will facilitate units being able to achieve training objectives in more than one training environment such as live and virtual or constructive and virtual (COL Robert P. White, former Deputy Commanding General, Combined Arms Center-Training (CAC-T)).

The Army Training Support Center (ATSC)-Training Support Analysis and Integration Division (TSAID) CAC-T was tasked by perform a review independent of the accreditation efforts to assess what training value the Integrated Training Event (ITEV) provides from the users' perspective. In support of providing an overall user assessment of integrated training, ATSC (TSAID) will collect user feedback at multiple times as fielding of the LVC-IA continues. Using the initial observations from the first users of the FUA, this assessment summarizes the user feedback into benefits, limitations, and concerns. The positive feedback gathered from the Brigade (BDE) staff, Battalion (BN) and Companies are related back to the goals and prospective benefits of the ITEV listed in the National Simulation Center (NSC) Master Implementation Plan (2010). The limitations and concerns of the integrated environment also obtained through the user feedback are provided and when possible linked to the technical issue already identified.

Introduction

Before fielding the LVC-IA, the operational scenario testing and additional thread and vignette testing were conducted during the FUA. The LVC-IA FUA was conducted 4-28 September, 2012 at Fort Hood Texas. During week 0 of the FUA, the equipment setup and the updates to startup the databases for the LVC-IA and the core systems were the main focuses in support of the event. During week 1 and week 2, the thread and vignette testing was conducted. The operational scenario testing was the main effort in week 3 which included media day and VIP Day. The operational scenario testing was conducted to validate the LVC-IA for use in a training exercise.

The unit tasked to support the LVC-IA FUA was the 2-1 BCT. The 2-1 BCT was tasked to conduct the LVC-IA Government Acceptance Test (GAT) Operational Test (OT) and the FUA

at Ft. Hood Texas in order to test, validate and provide feedback on LVC-IA, while conducting training in preparation for major combat systems gunnery. During the operational scenario event the 1/5 CAV conducted integrated training in the Live, Virtual and Constructive environments. The tactical operations center (TOC) along with the Headquarters Company, a mechanized infantry company and an armor company trained in the live environment. A mechanized infantry company and an armor company also trained in the virtual environment using the Close Combat Tactical Trainer (CCTT). The 2nd BCT, 1 CAV Div trained in the Live environment with the 1/5 CAV, but also provided command and control to several units in the constructive environment to include: 1/8 CAV, 4/9 CAV, 3/82 Field Artillery, 2nd Brigade Special Troops BN and the 15th Brigade Support BN. The 2-21 Aviation BN participated in both the virtual (Aviation Combined Arms Tactical Trainer (AVCATT)) and constructive environments. An Opposing Force (OPFOR) was portrayed in all environments.

The scenario is illustrated in Figure 1 where the Live environment is denoted in green, the Virtual environment is denoted in tan and the Constructive environment is denoted in orange. The scenario included indirect fire on the live and virtual objectives via constructive simulation. As shown in the Virtual area (tan), air support via AVCATT inserted scouts in the Virtual environment. Illustrated in Figure 1, the mechanized infantry companies and armor companies were in the Live and Virtual environments. These companies executed deliberate attacks in both of the integrated environments.   AVCATT provided supporting fires on the objective in the virtual environment. With the constructive wrap capability, the exercise was tailored to meet the unit training requirements as represented with the rest of the units depicted in orange. The training took place from 0800-1600 from 24-27 September.
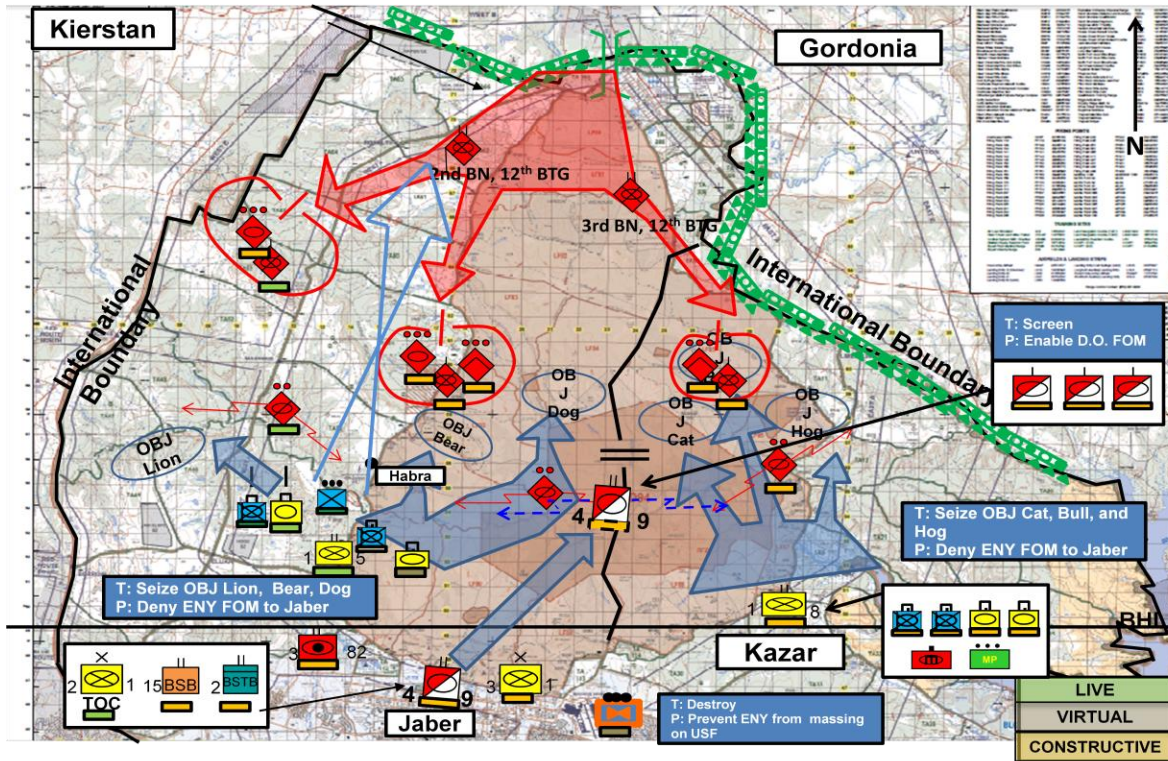
Figure 1: Graphic of Training Scenario

The FUA took place while 1/5 CAV was in the Red phase of the Army Force Generation (ARFORGEN) cycle. Commanders prioritize resources based upon, time availability, training time required, and directed mission. The generating force adjusts the level of support to meet operational Army requirements. Commanders use time management cycles (Red-Green-Amber) and training mission support to manage access to training capabilities at home station. These cycles establish the priority of support to units at an installation. Time management cycles help reduces the likelihood that non-training requirements from higher headquarters or the installation affect a commander's Unit Training Plan (UTP). Specific training cycles and their lengths vary among installations according to local requirements, such as ARFORGEN pools, unit deployment dates, and installation size and type. The "red phase" or "rest phase" are when units redeploy from long term operations or complete their planned deployment window in the available force pool. While in the red phase units conduct individual and collective training on tasks that support mission essential tasks lists. Red phase is characterized by maximum use of leaves and passes, individual self development, and individual leader and crew training. Using the Army model of crawl, walk, and run training levels, Red phase training is predominantly at the crawl and walk levels.

The 2nd BCT Commander stressed that his unit was under stress because of the Army's shift in primary mission from Counterinsurgery Operations (COIN) to Decisive Action. While the BDE was familiar with training for COIN most had not participated in a Decisive Action training event.

Methodology

In this report ATSC (TSAID) uses the user feedback during the FUA to assess the benefits, limitations and concerns. In order to know how an ITEV impacts the unit's ability to meet the training objectives, there has to be a baseline scenario not using an integrated training environment while still meeting the same training objectives. One suggestion was to construct a duplicate training event to the FUA, only in a non-integrated environment. This blended training environment would be set as the control group, attempting to meet the same objectives without the use of the LVC-IA. There are a few issues with this strategy, the first being the assumption that a blended training environment is the appropriate non-integrated scenario. To know the impact of the ITEV we have to know how the training would be done otherwise. A blended training environment is an option, but may not be the most likely since there are several training enablers available to a unit commander to meet the training objectives. The resulting information would then just be a comparison between two methods of training.

An additional issue with this particular strategy from a statistical perspective is the number of threats to the experiment's internal validity, that is there are too many variables at hand to be sure of our assertion that the training enabler (independent variable) resulted in the change of training value (dependent variable). For example, factors such as commander personality, unexpected events, weather, experience of unit, etc., may affect the experiment such that determining a difference in training value solely due to the training enablers is inconclusive.

A different strategy is to construct a baseline comparison scenario using subject matter experts, and the most likely alternative to create a non-integrated scenario. The first part of this strategy is to survey several unit commanders to determine what combination of training enablers they would use to meet the same training objectives as those set in the FUA. Since every unit commander is allowed the freedom to select which enablers they would use to train an event, the survey would capture the most common approach over a large sample of unit commanders. Using this baseline scenario as a comparison, we would obtain subject matter expert (SME) information from the appropriate audiences. This method provides an overall common approach selected by a multitude as opposed to using a single contrived exercise.

The details of this analytical approach are below.

1. Construct SME baseline scenario.
    a. Construct a survey with alternative training scenarios for commanders to choose from. Provide a section for comments so commanders can expand on selection.
    b. With the survey results, determine the most common approach, and justification of their selection.
2. Construct a survey to be distributed to the unit during the last week of the FUA assessing the training benefit. This survey will specifically request the users' feedback on their experience of training in an ITEV and whether the use of ITEV affected their ability to meet their training objectives as compared to the baseline scenario.
3. Use feedback obtained from surveys and interviews from the FUA to compare the prospective benefits and goals that the ITEV was expected to bring according to the NSC Master Implementation Report (2010).
4. The FUA will be used as a single data point compared to the SME baseline scenario to determine the advantages/disadvantages of an ITEV in this particular instance. The FUA training event will be the first of several data points as we develop the training benefits analysis of the ITEV and as the LVC-IA continue to be fielded.

Findings

This section is organized with respect to the methodology. That is, the results from the baseline survey are presented first followed by the survey results of the third week of the FUA.

Baseline Survey Results

The baseline survey purpose is to assess how other BNs would have trained the same training objectives as those set for the FUA, week 3, operational scenario event. The surveys were sent by Forces Command (FORSCOM) to the Armor Brigade Combat Teams (ABCT) at the following installations: Ft. Riley, Ft. Carson, Ft. Hood, Ft. Bliss, and Ft. Stewart. The online survey was open from 22 August 2012-14 September 2012. Of the four installations, we only received completed responses from Ft. Carson and Ft. Hood. The targeted audience for each ABCT was the BN CDR, BN S-3, BN Command Sergeant Major (CSM), Headquarters/Headquarters Company (HHC) CDR, Armor Co CDR, Infantry Company CDR, and Forward Support Company (FSC) CDR.

This target audience was selected based on the training objectives of week 3 of the FUA. The training objectives were separated by BN and Company. The surveys were constructed similarly. That is, the BN CDR, BN S-3 and BN CSM were each given the same survey of how they would train a specific set of training objectives without an ITEV. Likewise, of the Co CDRs listed, each was asked how they would train a set of tasks specific to their company.

The profile of respondents is given in Table 1.

Table 1: Respondents by Rank

Positions	Response Count
BN CDR	2
S-3	2
BN CSM	2
Infantry CO CDR	0
Armor Co CDR	3
HHC CDR	2
FSC CO CDR	0

Besides the one respondent from Ft. Hood, the rest of the respondents are from Ft. Carson. *Clearly with so few participants we cannot use inferential statistics since there is an under representation of the other installations that are part of the target population.* The results do provide insight to at least how some BNs at Ft. Carson would train the same training objectives used during the FUA.

The training objectives for week 3 of the FUA are listed below in Table 2. The training objectives are listed for the BN and the four different companies, participating in the event.

Table 2: BN and Company METLS during FUA

BN METL	IN CO METL	AR CO METL	HHC CO METL	FSC CO METL
Execute the Operations Process	Plan and Prepare Operations	Conduct a Movement to Contact	Provide Indirect Fires	Establish BSA
Perform ISR	Conduct Deliberate Attack	Breach an Obstacle	Conduct Reconnaissance and Security	Provide Distribution and Transportation
Conduct Offensive Ops	Conduct Movement to Contact	Conduct Attack	Plan and Prepare Ops	Provide Field Maintenance and Recovery
Conduct Defensive Ops	Conduct a Defense	Conduct Defense	Evacuate and Treat Casualties	Provide Food Service Support
Conduct Stability Ops		Occupy an Assembly Area		

The survey requested which TADSS the respondents would use for their respective training objectives shown in Table 2. As discussed in the methodology, we are looking to find how the leaders would train without the LVC-IA to enable an ITEV through the respondents' selection of TADSS. By knowing which TADSS the respondents would train with, we know which environments the respondents would utilize. By knowing which environment the respondents would train in gives an idea of the training as compared to the integrated three environments as tested at the FUA.

Battalion Leadership Responses

The results of how the respondents would train their respective tasks are listed first at the BN level then by the Co CDRs.
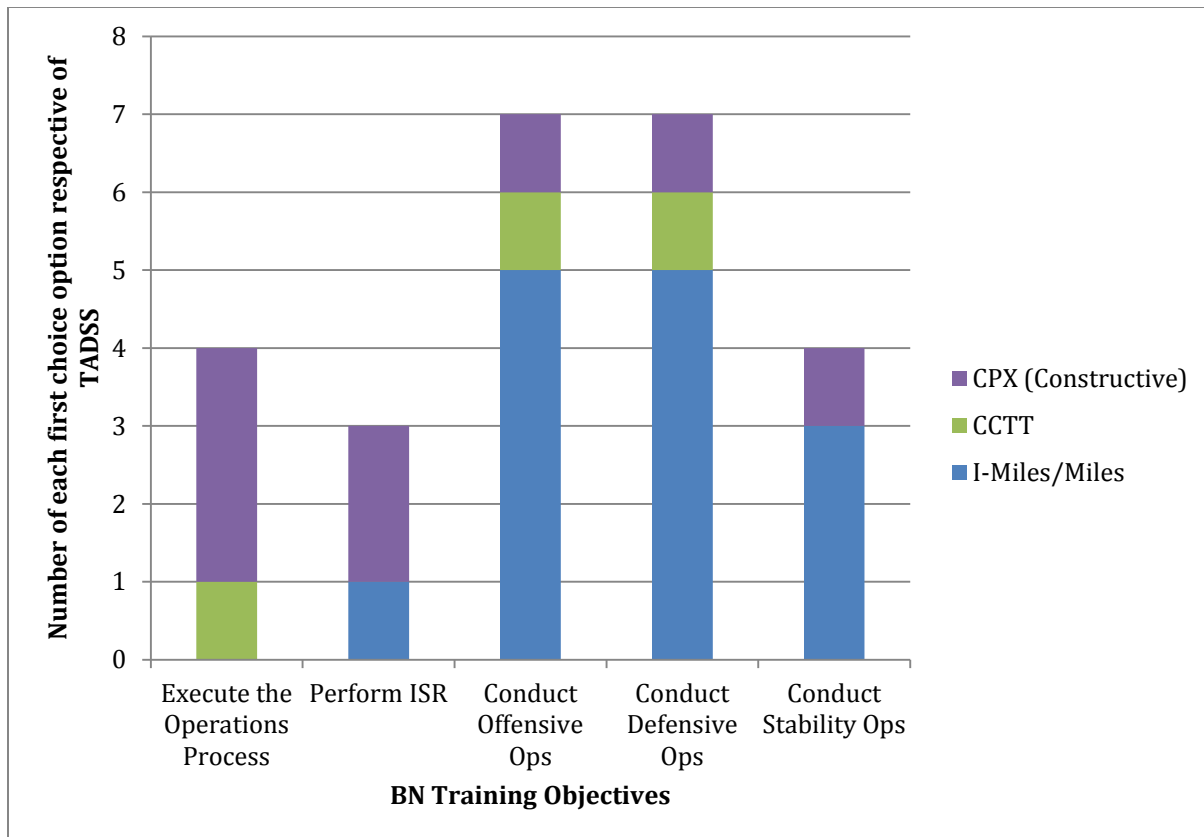
Figure 2: BN Training Objectives: Respondents first choice selections for each Objective per TADSS

The first choice TADSS selections for BN METLs are shown in the chart in Figure 2. The BN METLs are listed on the horizontal axis. For each METL, the number of each respondent answering the BN level survey selection is totaled and stacked by TADSS choice. For the *Execute the Operations Process* the most (3) of the respondents chose using a constructive environment to train the objective. One respondent chose CCTT. Only four of the six respondents had a first choice listed in the survey for this particular training objective. The other two respondents listed choices in the other option section with their preferred method for training this objective. One respondent listed executing the Military Decision Making Process (MDMP) as the preferred method for the *Execute the Operations Process* training objective. The second respondent choosing a method not listed in the survey listed the Tactical Operations Center (TOC) Exercise, Tactical Command Post (TAC CP) or the Mission Command on the Move (MCOTM) Command Post Exercise (CPX) as the preferred method for training the *Execute the Operations Process* training objective.

The second training objective, *Perform ISR* had three respondents whose first choice selections were available on the survey. Two of the three respondents' first choice to train this objective was using constructive and one respondent chose I-Miles/Miles. The three

other respondents completing the BN survey did not list their preferred method in the other section of the survey.

The third training objective, *Conduct Offensive Operations* had a total of six respondents select their first choices from the survey options. There are seven total first choice selections shown in the chart in Figure 2 because one respondent selected two first choice selections. As the chart shows, five of the six respondents elected I-Miles/Miles as their first choice for training *Conduct Offensive Operations* for training. One respondent chose constructive and another respondent's two first choice selections were I-Miles/Miles and CCTT. The fourth training objective, *Conduct Defensive Operations*, the respondents first choice selections were the same as for the *Conduct Offensive Operations*. There are seven total first choice selections again because one respondent selected two first choice options. Overall, as in the *Conduct Offensive Operations*, give of the six respondents chose I-Miles/Miles.

The fifth training objective, *Conduct Stability Operations* had four of the six respondents select their first choices from the survey options. The two respondents that did not select first choice options from those available on the survey did not indicate what their preferred methods were. Of the four respondents that did select first choice options, three chose I-Miles/Miles and one chose constructive. *Overall, the respondents at the BN level prefer either a live or constructive event.*

Company Commanders Responses

In Figure 3, the chart lists the first choice TADSS selections for the Armor Company Commanders. There are three Armor Commanders that responded to the survey (two from FT. Carson and one from FT. Hood). Similar to Figure 2, the training objectives for the Armor Company are listed along the horizontal axis. Each bar represents the first choice TADSS selections which are distinguished by color.
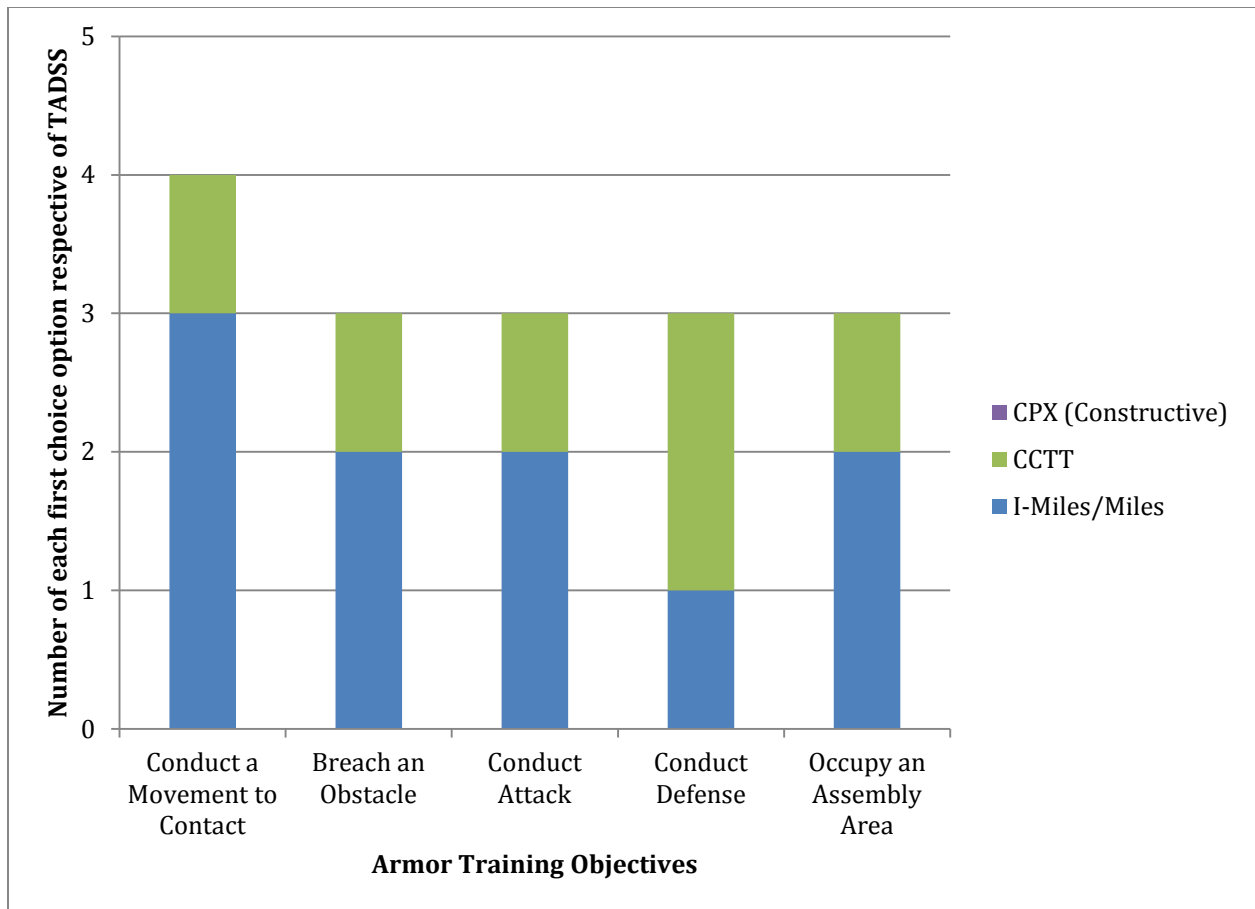
Figure 3: Armor Training Objectives: Respondents first choice selections for each Objective per TADSS

For the first Amor training objective, *Conduct a Movement to Contact* there are four first choice selections because one respondent selected both I-Miles/Miles and CCTT. The other respondent's choice I-Miles as their preferred method for training *Conduct a Movement to Contact.*

The second training objective, *Breach an Obstacle* had three responses. Two of the three respondents selected I-Miles/Miles while the third respondent chose CCTT. The third training objective, *Conduct an Attack* preferred methods are done similarly to the *Breach an Obstacle* training objective in that two of the three respondents chose I-Miles/Miles and one respondent chose CCTT as their preferred method for training this training objective. The fourth training objective *Conduct Defense* had two of the three respondents choose CCTT as a first choice and one of the three respondents choose I-Miles/Miles. The fifth training objective *Occupy an Assembly Area* had two of the three respondents select I-Miles/Miles and one respondent select CCTT as first choices. *Overall, the respondents for the Armor Company only chose two environments for training the objectives, Live and Virtual, as indicated by their TADSS selections.*

The HHC responses by HHC CDRs only included two respondents that had fewer first choice selections than their training objectives as listed in Table 2. One of the respondents used the other option to list the preferred method of training. For training the objective, *Provide Indirect Fires*, one of the respondents listed the options of Unit Conduct of Fire Trainer (UCOFT), Mortar Training Evaluation Program (MORTEP) or Fire Integration Support Team (FIST) Certification. The UCOFT is considered a Virtual trainer. For the second training objective, *Conduct Reconnaissance and Security* one of the two respondents chose I-Miles/Miles, while another listed Section and Platoon Maneuver Training and BN Level Maneuver Training. For the training objective *Plan and Prepare Operations* one respondent chose constructive as the preferred method and the second respondent listed War Fighter Exercise WFX, BN Level Maneuver Training, BN Level Force on Force Lanes, or National Training Center (NTC). The last training objective, evacuate and treat casualties, neither respondent chose a first choice selection. One respondent did list a few preferred methods such as hands on field training, platoon, Company, BN Level Situational Trainer Exercise (STX). Overall, the two HHC CDRs either selected options that could be considered virtual such as UCOFT, or Live such as I-Miles/Miles, or Maneuver training or Constructive.

The chart in Figure 4 shows graphically how many exercises the respondents for each Echelon Level would use to train their respective training objectives. At the BN level, three of the six respondents selected three exercises as the least number of exercises they would perform to train the BN training objectives. All three Armor CDRs selected three exercises to train their objectives. The HHC CDRs chose four or three exercises as the minimum number of exercises they would use to train their objectives (objectives are listed in Table 2).
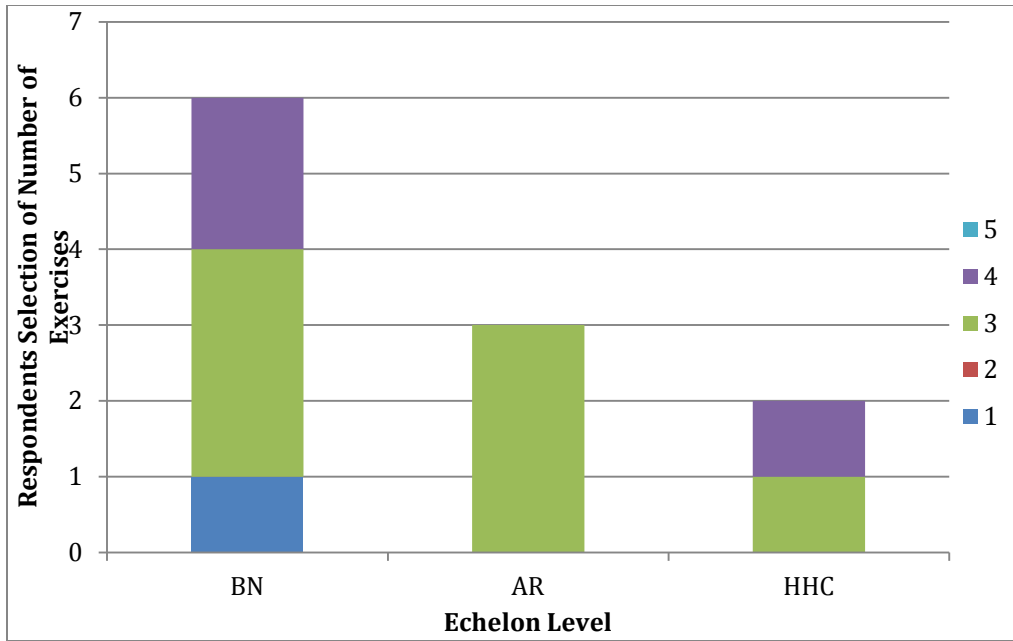
Figure 4: The Number of Exercises the different echelon levels would use to train their respective training objectives.

First Use Assessment Survey and Interview Results

During the FUA, different echelon level participants of the FUA were interviewed or surveyed or both. At the BDE level we held a group interview including the BDE CDR, the Executive Officer (XO), S-3, and S-3 Plans officers. The interview lasted roughly an hour. In a separate group interview at the BN level, participants included the BN CDR, XO, two Armor Co CDRs, two Infantry Co CDRs, and the HHC CDR. With the exception of the FSC CDR, these were all the Company Commanders that participated in the event. While the number of interviewees and survey respondents for the FUA is not large it is 87.5% (7 of the 8 BDE and BN leadership and Company CDRs) of the BDE leadership, BN leadership and Company CDRs participating in this first use of the LVC-IA. Since the BN also had specific training objectives, they were requested to complete a survey. The BN XO completed the FSC survey since the FSC CDR was unavailable. A follow-up interview with only the BN CDR and BN XO was conducted after the larger group interview with the CO CDRs. In addition to the participating BDE and BN, we surveyed the LVC operators that ran the LVC-IA Exercise Control during the FUA, including Week 3. The focus of the interviews and surveys was the additional training value (if any) the BDE staff and BN received from using an integrated event.

Brigade Level

The group interview with the BDE CDR and Staff included six discussion questions that covered the effort in putting together an ITEV, the resulting realism of training in an ITEV, the limitations of cross environment effects, and overall comments.

Table 3: BDE CDR and Staff Interview Questions and Responses

Questions	BDE Responses
Is the effort of putting together an ITEV training exercise worth the training value that the units received?	The BDE CDR responded yes and the staff expanded by explaining any additional effort was compounded by being in the red cycle; however the cost of effort was no different than arranging for a single environment. The CDR and staff did note that obtaining resources for this particular event was not a challenge because of the pull from the CG III Corps.
Has the integrated environment helped achieve a more realistic training exercise?	With the setup of the TOC and a BN in play the staff reported more realistic staff training. They explained even though they were starting in the crawl phase they were very close to walking after only four days of training.
How do you envision scheduling and coordinating such an exercise?	To encourage the use of the LVC-IA, the BDE CDR suggested giving priority of resources to those that plan to use LVC-IA for their training event. The staff also recommended that the MTC staff would have to be able to explain and guide the unit could use the LVC-IA for the unit's training event.
Has the system's inability to properly portray obstacles across environments been a significant limitation?	The BDE Staff reported this system limitation as not having a serious impact since as they explained the terrain may have not been realistic so they used workarounds.
Did the no effects from indirect fire into Live limit the exercise?	The BDE Staff reported this was not a serious impact since the scenario could be designed well enough to account for the lack of effects.

Overall, the BDE CDR and staff were pleased with the LVC-IA and as the BDE XO stated felt the training using an ITEV had an *exponentially positive impact* by rapidly increasing the BDE TOC's proficiency. Since the BDE staff was still in the red cycle the FUA week 3 training event was the first time for a lot of the staff in their respective positions. Training in an integrated environment using LVC-IA allowed the staff to train on tasks in support of the exercise. The BDE CDR also noted that while LVC-IA was useful, it did not create any additional resources and therefore would still have to compete for the same resources as other training. A general concern of the staff was whether or not the current planned

staffing of three LVC-IA personnel (two operators and one maintainer) will be sufficient for providing the same level of support they received during the FUA.

Battalion Level

The group interview of the BN CDR, BN XO and Company CDRs included three questions directed to the Co CDRs. In a follow-up interview with only the BN CDR and XO, two additional questions were asked.

In Table 4, the interview responses of the BN Commander and XO are summarized for each question.

Table 4: BN Commander and Executive Officer Interview Responses

Questions	Responses
Overall, does this integrated environment enhance training and if yes, how?	For the BN Staff, the BN CDR reported training in an ITEV did enhance training. The training was made more realistic with the BDE TOC setup and they could train on getting all company feeds as well as producing information for the HQ feeds. The BN CDR also observed that it was to have all organic resources all on the same terrain.
Has the integrated environment helped achieve a more realistic training exercise?	With the different pace of the Live, Virtual, and Constructive environments, the border with V and C to L makes the training two separate fights. The BN CDR recommended to not split a BN across environments in a BDE training event.
How do you envision scheduling and coordinating such an exercise?	The scheduling and coordination has to be easy, if it requires any additional resources from the unit, the XO explained they would not use the system. The XO suggested making the scheduling and coordination require minimal effort from the unit.
Was the training value worth the effort of conducting the integrated event?	The BN CDR and XO both said yes. Using an ITEV was beneficial for Combined Arms maneuvering.

Overall, from the interview (and supported by the survey) the BN CDR and XO were satisfied with the LVC-IA as a training tool enabling an integrated training environment. Similar to the BDE staff response, the BN CDR and XO felt the integrated environment was beneficial for training their staff by creating a very realistic environment with feeds from four companies in the field and having to provide reports to the BDE. The BN CDR also stated the training benefited from being able to use so much of the training area through the use of all three integrated environments. While both the BN CDR and XO were satisfied with the use of LVC-IA, they identified a few limitations and recommendations. The BN CDR commented on his survey the need to fix the connectivity and integration of indirect fires,

ISR and direct fire effects across domains. As part of the interview, the BN CDR stated that the fix to indirect fires has to occur before any other unit uses the system for training. The BN CDR and XO had similar observations of the pace of the battle in the different environments. The entities in the Constructive environment were able to maneuver much quicker than those in Virtual and Live. Also since the Constructive and Virtual environments could see the Live entities but Live could not visually see the other two domain entities, the Live domain had to stay clear of the border to the Virtual and Constructive environments. By having to adjust the training this way, the companies across the different domains were unable to provide coordinated support in taking an objective. This effect of integrating the environments made the training into two separate fights. The BN CDR recommended that units with mutual objectives should not be spread across the environments, only units with exclusive missions should be split into different environments. The BN XO also expressed concern over the number of additional manpower needed to run the training exercise. In the interview he estimated about 300 personnel were necessary to run the training exercise and followed-up his comment in the survey by listing what additional manpower was needed "*significant white cells, exercise architecture; approx 300 pax.*" To the same survey question, the BN CDR listed out the areas in which additional manpower would be necessary, "*O/Cs, White Cell in each domain, MTC guard, HITS tower guard, Fire marker.*"

At the conclusion of the interview, both the BN CDR and XO completed a survey. Some of the excerpts of the survey are illustrated in Figures 5 and 6. As part of the survey, the CDR and XO were asked to select their level of agreement with eight statements. The results are shown in the following Figures. An additional question (referenced previously) was asked about their overall satisfaction with the LVC-IA as a training tool enabling an integrated training environment, both the BN CDR and XO chose satisfied from the possible choices: very satisfied, satisfied, neither satisfied/dissatisfied, dissatisfied, or very dissatisfied.
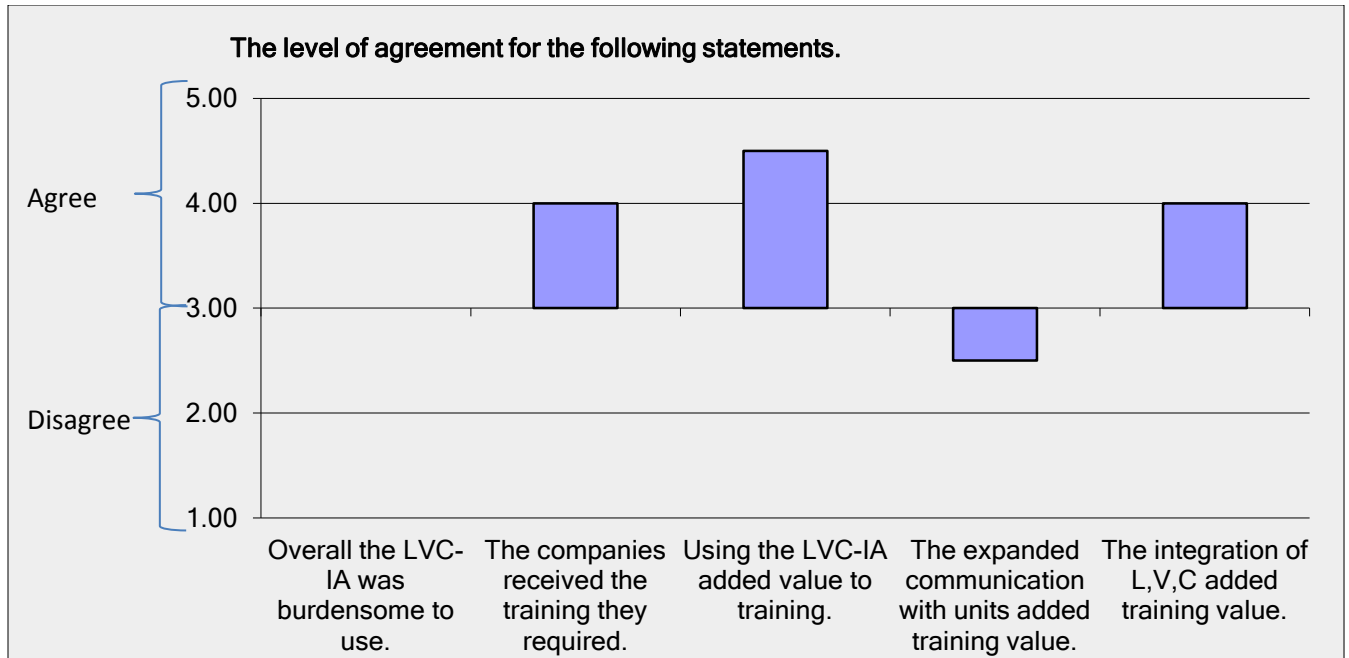
Figure 5: BN CDR and BN XO level of Agreement (Chart 1 of 2)

The chart shown in Figure 5 gives each statement along the horizontal axis the BN CDR and XO were asked to select their level agreement. The responses are in numerical value form and listed along the vertical axis. The numerical values have the following meanings, a 5.00 is strongly agree, a 4.00 agree, 3.0 neither agree/disagree, 2.00 disagree, and 1.00 strongly disagree. The first statement, overall the LVC-IA was burdensome to use, both the CDR and XO had the same response of neither agree/disagree. The second statement, the companies received the training they required, both the CDR and XO had the same response of agree. For the third statement, using the LVC-IA added value to training, the BN CDR chose strongly agree and the XO chose agree, averaging to a value in between the two choices. For the fourth statement, the expanded communication with units added training value, the BN CDR chose agree while the XO chose strongly disagree, citing the architecture not working smoothly. The fifth statement, the integration of L,V,C added training value, both the BN CDR and XO selected agree. The remaining three statements are shown in Figure 6.

The level of agreement for the following statements.
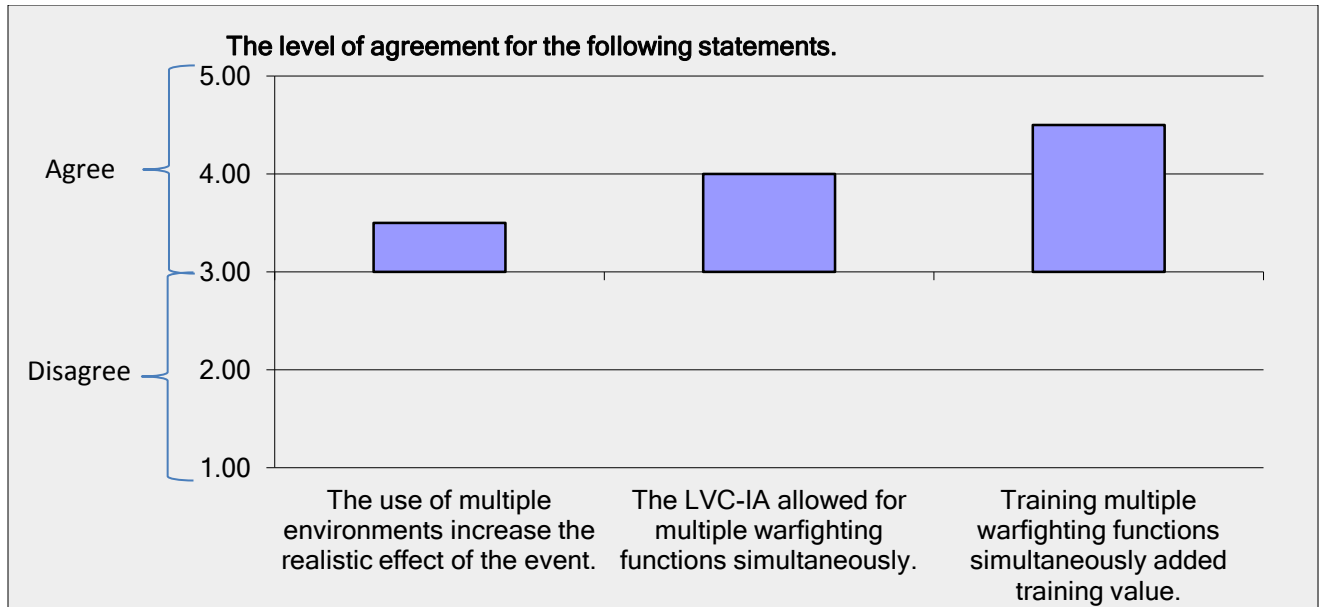
Figure 6: BN CDR and BN XO level of Agreement (Chart 2 of 2)

Continuing with the sixth statement shown in Figure 6, the use of multiple environments increase the realistic effect of the event, the BN CDR chose neither agree/disagree and the XO chose agree, resulting in an average between 3.00 and 4.00. The seventh statement, the LVC-IA allowed for multiple warfighting functions simultaneously, both the BN CDR and XO selected agree. For the last question, training multiple warfighting functions simultaneously added training value, the BN CDR chose strongly agree and the XO chose agree, resulting in an average between 4.00 and 5.00.

The responses from the company commanders interview are summarized in Table 5. The Co CDRs were directly impacted by some of the system limitations listed previously (such as issues with indirect fire) and those impacts are threaded throughout their responses. Their responses to the interview are listed first followed by their average survey results shown in the chart in Figure 7. The Co CDRs surveys had a similar structure to the BN staff level survey as they were instructed to list their level of agreement to a set of statements about their training experience during the FUA using the LVC-IA.

Table 5: Company Commanders Interview Responses

Questions	Responses
Overall, what were the advantages or limitations of using this integrated system?	The Co CDRS were pleased with the freedom to maneuver where they don't normally get including using training area they wouldn't normally get to use through the use of the Virtual environment and the Constructive Wrap. While the ability to talk to different environments was appreciated, the Co CDRs viewed the communication as more of a limitation because of how many workarounds were necessary to enable the radios to communicate, especially from CCTT to AVCATT. The Co CDRs reported the greatest limitation during the exercise was the slow or non-existent call for fires.
Was the training enhanced from having these integrated environments?	Training at the Co level was not enhanced and had to adapt training to the limitations of the system. The Co CDRs explained they still had to train to the boundaries (of the environments in this case) and that LVC-IA has given no additional capability compared to how they would train before. The Co CDRs cited the limitations of the call for fires as an example of what detracted from their training.
At the Co Level, did you receive sufficient training from participation in the ITEV?	The Co CDRs felt they received sufficient training; however, the training was independent of using the integrated system. The Infantry Co CDR recalled having to develop unrealistic scenarios since they could not make kills through bushes, in the prone position or in buildings using HITS. The BN CDR agreed that at the Co level training may not have been enhanced and besides the integration of enablers there was not much difference.

Overall, the Company Commanders did not experience much difference in their training as they trained in single environments. One limitation that impacted the Co CDRs the most was the indirect fires issue. The indirect fires issue (where the unit would wait for 20-30 minutes for a call for fires or the mission would be cancelled) was identified as a problem trouble ticket that prevents mission accomplishment during the FUA. PEO-STRI has noted this PTR and currently plans to fix it for Version 1 fielding. The Company Commanders, the BN XO and the BN CDR agreed this issue absolutely had to be fixed before any other unit should use the LVC-IA system.
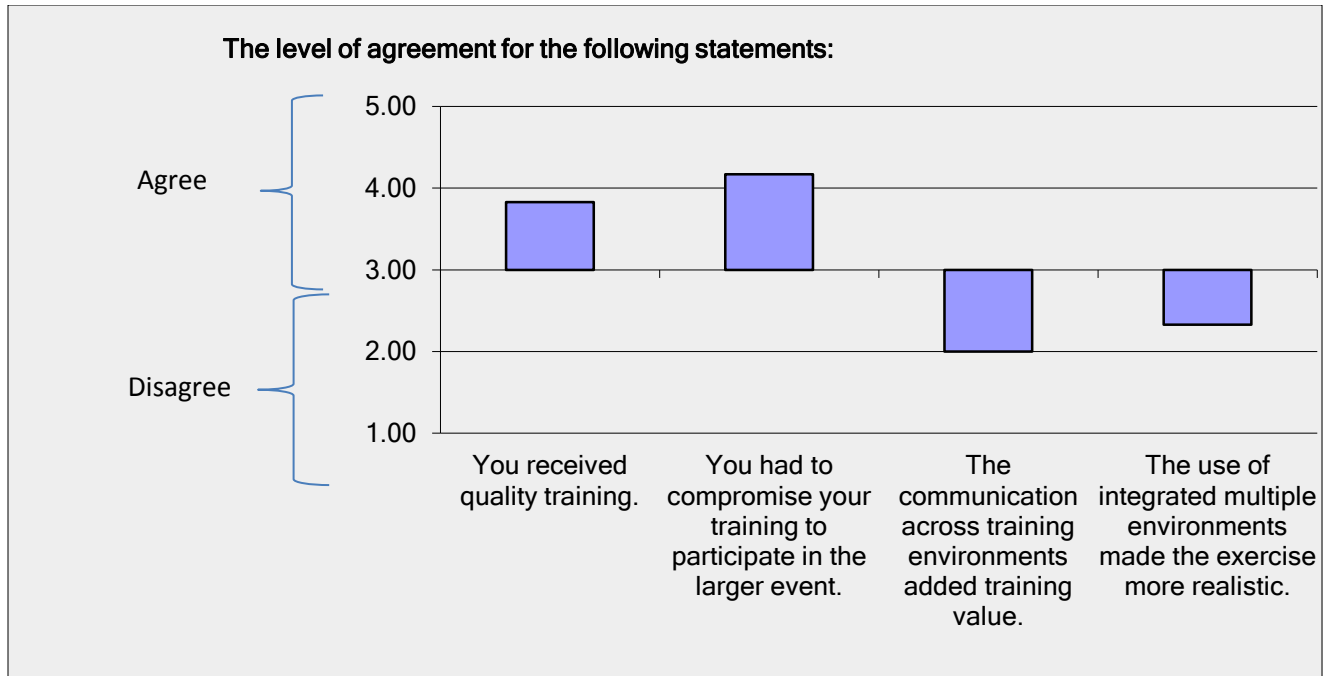
Figure 7 : The Company Commanders level of agreement

The company commanders survey responses indicating their level agreement to statements including the quality of training, whether they had to compromise their training to participate in the larger event, whether they agreed communication across training environments added training value, and whether the use of integrated multiple environments made the exercise more realistic are shown in Figure 7. The values in the chart are the average level of agreement of the Company Commanders. A value above a 3.0 means on average a company commander either agrees or strongly agrees with the statement. A value below a 3.0 means on average a company commander disagrees or strongly disagrees with the statement. As the chart indicates and per the survey responses most agreed or chose neither agree/disagree with the statement that they received quality training. On average, the Co CDRs agreed that they had to compromise their training to participate in the larger event. In the third statement, the Co CDRs on average disagreed that the communication across training environments added training value. For the last statement, on average Co CDRs chose neither agree/disagree or disagree on average to the statement, the use of integrated multiple environments made the exercise more realistic.

LVC-IA Operators

The LVC-IA operators were the technicians that ran the LVC-IA EXCON and the EAAR during the FUA. There were six total operators during the FUA. During week 3 of the FUA, the LVC-IA operators operated on a two person 8-hour shift with 3 shifts total to cover the

24-hour operations. For each shift one person focused on the duties of the EXCON while the second person was the EAAR operator to initialize systems and maintain connectivity. As part of the surveys the respondents were asked what the manning requirements of the staff are to run a LVC event for each environment. For Constructive a total of four tech control operators were needed along with a minimum of two operators for the workstations. For the Live environment running HITS, one or two operators were necessary during the exercise. For the Virtual environment, in addition to two techs needed one tech per four man modules is required, for a total of three (for four man modules). For AVCATT, three techs were needed.

The survey asked whether or not any additional training to setup and run the LVC-IA system was required. The respondents indicated that they did not receive any formal training. Instead they explained that they applied their collective knowledge based on their observations of the previous testing during the FUA. The survey also included a set of statements the respondents were asked to rate their level of agreement. The results are shown in Figure 8.
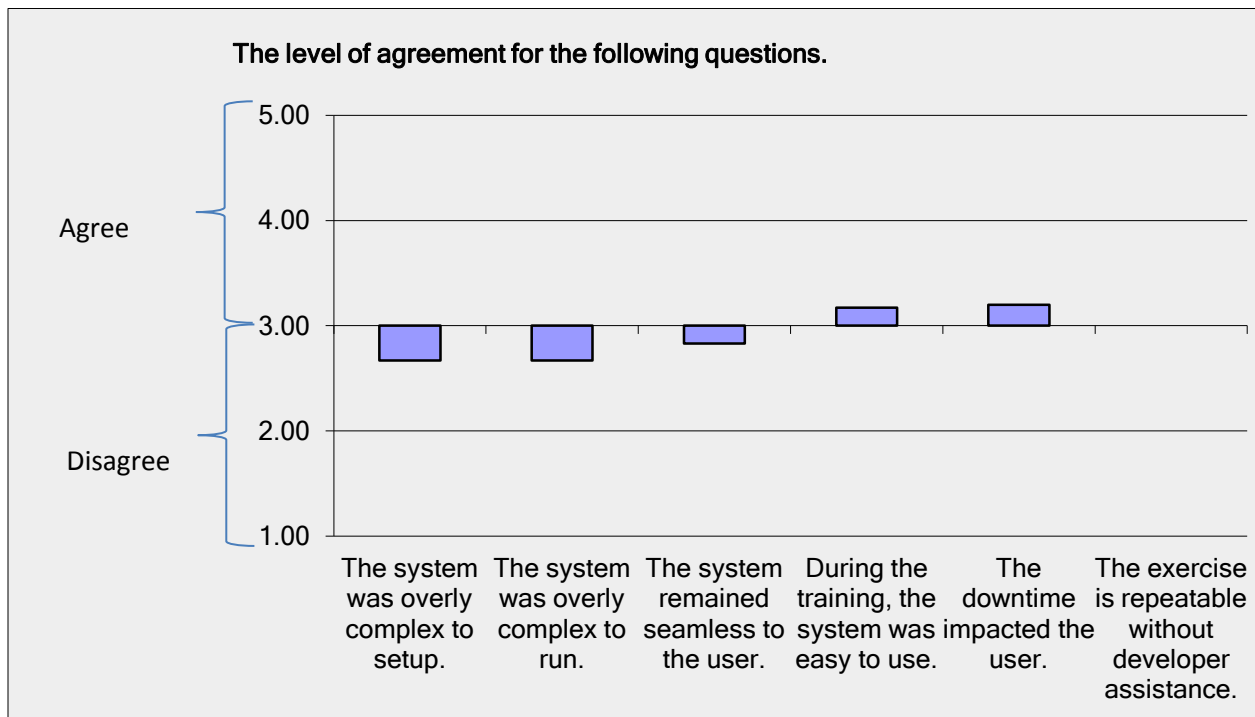
Figure 8: The LVC Operators Level of Agreement

Similar to the previous charts that graphed the level of agreement, the chart in Figure 8 shows on average the degree in which the respondents agreed or disagreed. A value above 3.0 means on average the LVC operators agreed, a value below 3.0 means on average the LVC operators disagreed. Overall, for each statement, most the respondents chose neither agree/disagree since the values are very close to 3.0.

Analysis

Using the findings from the interviews with the BDE staff, BN leadership and Company CDRs and the survey data presented in the previous section, in the analysis section we link the findings to the goals and prospective benefits listed by NSC in their LVC-IA/ITE Master Implementation Report (2010). Although the baseline results were inclusive, the small snapshot they suggest is that the BN would train using Live or Constructive. At the Company level, they would train using either live or virtual. In the ITEV, all three environments were integrated allowing for companies and the BN staff to train simultaneously. Following the listing of the benefits, the limitations and concerns of the system as described by the users are listed. The limitations are linked back to the technical issues of the system.

Benefits

As stated in the NSC Master Implementation Report, there are three major goals that relate to Version 1 fielding of the LVC-IA that enables the ITE. They are the following:

1. Expand the Battlespace of Operations for Training and Mission Rehearsal.
2. Training Environment (TE) approximates Operational Environment (OE).
3. Enhance Battle Staff Proficiency to Train Warfighting Functions.

The prospective benefits related to each of these goals are listed in the NSC Master Implementation Report and are the following:

1. Expands the areas of operations for training by utilizing multiple training environments using constructive and virtual augmentation to overcome geographical constraints.
2. Enables employment of realistic effects not possible in just one training environment.
3. Enables employment of all BCT assets.
4. Enables commanders/staff to simultaneously exercise all warfighting functions.

The interview and survey responses listed in the findings section are summarized with respect to the goals and prospective benefits written above. The findings are first listed at the BDE staff and BN leadership level followed by the Company CDRs.

In the interview, the BN CDR explained how during training the four companies were able to use parts of FT. Hood they would not have been able to use in a single Live environment.

Leveraging the ITEV for training allowed for the whole Bn to using a smaller physical footprint as compared to training the whole Bn in the single Live environment. By having the additional Virtual and Constructive environments integrated, they were able to use more of the training area, thus expanding the areas of operations for training as suggested in the first goal and first prospective benefit listed previously.

Overall from the BDE staff and BN leadership comments, an ITEV using LVC-IA enhances battle staff training. Both echelons had similar comments of the increased realism from having a full BDE TOC and BN TOC setup with units in the field. Based on the interview responses of the BDE staff and BN leadership, the integrated environments allowing for the BDE TOC setup, the BN TOC setup, and four companies in the field provided their staff with a realistic training event approximating how they would operate in theater. By approximating the operational environment, the BDE and BN battle staffs realized the second goal and second prospective benefit.

Based on the survey responses from the BN leadership (Figure 6) both agreed the LVC-IA allowed for training multiple warfighting functions simultaneously, as the third goal and fourth prospective benefit suggested. The BN leadership also agreed that the ability to train multiple warfighting functions simultaneously added training value (Figure 6). The NSC Accreditation Report (2012) also provides data supporting the LVC-IA ability to train multiple warfighting functions simultaneously.

While the integrated environments provided several benefits to the BDE staff and the BN leadership, the companies cited far fewer benefits. From the interview responses (Table 5) the company CDRs were pleased with the freedom to maneuver in training area they do not normally get to use through the use of the Virtual environment and the constructive wrap. The company therefore also benefited from the expanded areas of operations as the goals and prospective benefits suggests.

Limitations and Concerns

The BDE staff and BN leadership expressed the need to ensure scheduling of the LVC-IA must be easy and "one-stop shopping," where the MTC staff is fully informed on all the limitations and options of the LVC-IA that can be explained to the unit. This has been identified as the job of the LVC Coordinator. The BDE CDR gave positive reviews about LVC-IA, but did not want the use of the system to be mandated so the CDR would still be in control of the whitespace of the training calendar.

Another concern identified by the BDE staff and the BN leadership was the level of support provided during the FUA compared to the personnel available during a normal event. Currently the planned staffing is for three LVC-IA personnel including two operators and one maintainer. Based on the survey responses from the LVC operators during the FUA, one person would be required for normal operations and one as an EAAR operator to initialize systems, and maintain connectivity. The respondent noted that if the EAAR operator is responsible to create the EAAR for the unit then an additional person would be required. During the FUA there were only two LVC-IA people running the LVC-IA EXCON per shift with over the shoulder contractor (developer) support it. The current planned personnel is sufficient for one shift; however, should a unit want to run 24 hour operations, the two provided LVC-IA EXCON operators may not be able to support. During the FUA there were three shifts with six total operators to support the 24 hour operations of the training exercise. In addition to the LVC-IA EXCON personnel, there were additional technical control personnel to include four technicians covering the Constructive systems, one to two people covering the Live system, three technicians covering CCTT and three covering AVCATT.

The BDE staff (S-3 plans) and the BN leadership observed that the integration of the three environments highlighted the different paces of the battle across the environments. As described in the Findings section, the Constructive entities could maneuver much faster and be inhumanely precise. With the different battle paces the Constructive entities were very hard to engage. The concern is that units with mutual objectives cannot be split across the environments because with the different battle pace units in Live or Virtual would be unable to provide timely support. The BN CDR solution to this issue is to not split a unit with mutual objectives across the environments. For a BDE level training, each BN should be within one environment. For a BN level training exercise, the companies would be split into different environments, provided they have exclusive missions.

The BN XO discussed a concern in the interview and listed in his survey the magnitude of additional manpower that was necessary to run the training exercise. As stated in the Findings section, he estimated 300 personnel total to cover the white cells and exercise architecture. The BN CDR also listed the guard duties as part of this figure including MTC guards, HITS tower guard, O/Cs and fire markers. This may vary per exercise but the real personnel requirements to run an exercise must be conveyed to the unit.

As discussed in the Findings section, the limitation of the indirect fires impacted training. Units would have to wait either thirty minutes for a call for fires or after twenty minutes have the call be cancelled. The Co CDRs and BN CDR and BN XO identified this limitation as an issue that must be fixed before fielding. This issue impacting the user had a PTR developed during the FUA. This PTR was given Priority 1, prevents mission accomplishment by the DAG. The technical issue related to this limitation is the effect of the

Simple Artillery (SARTY) gateway crashing. The PTR states the operational impact is the unit not being able to digitally control fires, and must use non-operational voice workarounds to control fires. This issue has been identified by PEO-STRI to be fixed before fielding of Version 1.

The Company CDRs noted the limitation of the lack of direct communications between CCTT and AVCATT. This communications link issue was also reported by the BDE CDR and 1/5 CAV as an issue that needs improvement. Since the CCTT and AVCATT could not directly communicate in order to pass information to the AVCATT the unit leaders would have to pass the information through a chain of approximately six people to get the orders from CCTT to AVCATT. This extended chain of personnel delayed information in reaching its destination in a timely manner.

One of the Company CDRs that trained in the Live environment reported limitations to realistic training. He explained that they had to adjust their training since HITS and Miles cannot track kills when soldiers are behind bushes in the prone position. The Co CDRs therefore had to adjust the training such that soldiers were moved into open space and not behind bushes or the prone positions so they could be engaged. This accommodation is an example of the Co CDRs having to adjust to the limitations of the system. The Co CDRs reported in the surveys (see Figure 7) that they agreed on average that by participating in the larger training event, they had to compromise their training.

Conclusion

Overall, the training in an integrated environment was beneficial for the BDE and BN staffs as the goals and prospective benefits from the NSC Master Implementation Plan (2010) were realized. As identified in the Analysis section, the BDE and BN noted that with the integrated environments they were able to utilize more of the Ft. Hood training area, thus expanding the battlespace and the areas of operation. The whole Bn was able to train on a much smaller physical footprint by leveraging the Virtual and Constructive environments. The BDE reported that from the start of the week the BDE staff was crawling and by the end of the training they claimed they would be walking within the next week thanks to the training. Using the integrated environment to train, therefore approximated the operational environment and enhanced the battle staff proficiency. The BN leadership reported they were able to train multiple warfighting functions and the NSC Accreditation Report (2012) provides details. Based on the FUA, the first data point for assessing the training value of the ITEV, the BDE and BN staffs realized the prospective benefits and met the goals listed in the Analysis section, excerpted from the NSC Master Implementation Plan (2010).

Although the integrated environments provided several benefits to the battle staffs there were also limitations and concerns as discussed in the Analysis section. The limitations with the greatest user impact have been identified through the PTR process during the FUA. As displayed in the Findings and Analysis sections, the Co CDRs were often adjusting their training to the limitations of the system, whether by establishing other communication from CCTT to AVCATT, going without indirect fires support or adjusting the training scenario for soldiers in Live to be in the open in order to be engaged as opposed to behind bushes or in the prone position.

The BDE and BN also addressed the unequal pace of the battle of the different environments. The constructive entities were near impossible to engage (as described by the Co CDRs) and providing support for a mutual objective was hard to coordinate because of the different paces of the battle. The BN CDR suggested splitting entities into the different environments only if the units have mutually exclusive missions.

A shared concern of the BDE and BN is the level of support they can expect during an LVC-IA event after the FUA. Based on the surveys of the LVC operators listed in the Findings section, the actual LVC-IA EXCON support of two operators per shift matches the current planned manning of two operators and one maintainer. If a unit would need 24-hour operations, this level of support will not be enough since six operators were necessary to cover three shifts for 24-hour operations during the FUA.

As future LVC-IA training events occur, ATSC (TSAID) will relook manning requirements for both the unit and the MTC (including LVC operators).

Appendix A: Interview Response Summaries

BDE Comments

1. Is the effort of putting together an ITE training exercise worth the training value that the units will receive?

   BDE CDR: Yes,

   - What was the additional effort: pain level was compounded by being in the red cycle
   - Upfront cost was no different than doing in single environment
   - Synchronizing Army resources might be a challenge
   - III Corps CDR pull helped get all resources, w/o the support it would have taken more pull

2. Has the integrated environment helped achieve a more realistic training exercise?

   - More realistic staff training
   - From Monday to Thursday, an amazing difference
   - Started at crawl and should be walking by following week
   - Can process information internally to staff
   - Limitation of exercise (not system): didn't replicate a higher HQ pulling from BDE
   - With BN in play realistic being in same location
   - Setup of TOC gave realism
   - BN in field gives realistic friction points
   - Difficult to pass info from 1/5 to HQ, added to training value
   - Enabled risk in training, BDE CDR was able to make risky decision of pursuing an enemy similar to realistic situation

3. How do you envision scheduling and coordinating such an exercise?

   - Would have to prioritize resources
   - Would have to really sell LVC-IA to use it by giving priority to those who want to use LVC-IA.
   - Would need MTC staff to help sell/explain menu of what could be offered

4. Has the system's inability to properly portray obstacles across environments been a significant limitation?

   - Not a significant issue since the terrain may have not been realistic but just used workarounds

- Cost to exercise is having a smart planner to make decisions on fly (exercise control cell)

5. Did the no effects from indirect fire into Live limit the exercise

   - Digital problems, but designed well enough

6. From what you've seen already do the AAR's seem like they'll have better feedback about the exercise?
   - In order to max AAR, needed to have one person dedicated to query the system to ensure what was perceptive and what was real

Overall BDE Comments

- LVC-IA forced the BDE to take tools and train on the tasks only b/c of the exercise
- Clearance to fire and battle drills pretty close to executing all of the battle drills
- Trained support package with LVC-IA leverage MCTC, mitigate by having division ready scenario for play
- Ensure 3 people can fully support LVC-IA exercise
- BDE CDR
  - Don't want to be told to use LVC-IA
  - Still competing for the same resources; LVC-IA doesn't solve that
  - Still have to compete for resources
  - ITE doesn't create new resources at Homestation
- Exponentially positive impact
- First time of staff in positions going through learning curve; going up
- Flexibility: A unit farther along can be put into a different environment
- A different way to leverage resources not get more resources
- Have to use FM to keep in communication
- Great training opportunity
- LVC-IA further helped integrating enablers seeing BDE in CPOF
- JCATS wouldn't have helped see themselves anymore
- Virtual UAV feed helped with going through decision points when unable to use actual Live UAV feed.

Overall BDE Concerns

- A lot of support necessary
- If system is used in the future with only 3 support people what will happen when there are less people
- BFT feed real world SIPR, LVC-IA not allowed to touch real world SIPR
- Issue with AFATDS, difficulty talking to multiple AFTADS
- Fix to virtual being reconstituted in Live

BN Comments

Company Commanders

1. Overall, advantages/limitations of using this integrated system?

   - Were able to talk to different environments
   - Freedom to maneuver that normally don't get
   - Get to use training area wouldn't normally get to use
   - The communication between one another was almost a limitation. They had to do several workarounds to get the radios talking, especially from CCTT to AVCATT
   - Call for fires was slow or non-existent; it wasn't realistic.

2. Was the training enhanced from having these integrated environments?
   - Training was not enhanced
   - Sole difference talked to BN and S-3
   - Mission wasn't linked, potential was there but it wasn't
   - Benefit to get BN in sync could run simultaneously
   - Indirect fires has to be fixed
   - LVC-IA has gives no additional capability compared to how would train before
   - Given window of training, reduced flexibility unrealistic
   - Maneuvering the same
   - JR leaders maintain vehicles, and train on guard duties, would have to switch environments to get same training
   - Limitations call for fires
   - Still had to train boundaries
   - How do we use the system not as a distracter
   - BN could see UAV feed

3. At the Co Level, did you receive sufficient training from participation in the ITE/LVC-IA?
   - Sufficient but independent of tracking on HITS
   - Had to come up with unrealistic scenarios since couldn't make kills through bushes or in buildings
   - But did get to train decisive action b/c of FUA
   - Training had to be adapted too much to systems limitations
   - Adapted to what LVC- IA provided, not on how the unit really trains.
   - Destroyed an enemy that did not maneuver which was unrealistic
   - BN CDR: Co level not enhanced
     - May not matter except for integration of enablers
   - Cross domain effects have to be worked out

          o Constructive maneuver unrealistic
- Communication of all system has to be fixed

BN CDR

1. Overall, does this integrated environment enhance training? (how did it enhance?)

   - 6 steps of TOC process
   - Getting all company feeds and pull from HQ feeds
   - BN staff, doesn't get real training value w/o BDE TOC
   - ISR feed, support from BDE TOC
   - Having 4 Co out in field beneficial
   - w/training areas having all organic resources and all resources all on same terrain
   - did training based on BDE order
   - not running coordinated attack

2. Has integrated environment helped achieve a more realistic training exercise?

   - If BDE training event, do not cross BN across environments
   - The border with V and C to L makes the training 2 separate fights

3. From what you've seen already, do the AAR's seem like they'll have better feedback about the exercise?
   - No overview across all 3 domains.
   - If cross domain, need a cross domain AAR

4. How do you envision scheduling and coordinating such an exercise?
   - Has to be easy, if requires any additional resources, won't do it.
   - Should be similar to JRTC
   - Don't focus on exercise infrastructure
   - ARFORGEN makes LVC-IA training hard to do

5. Was the training value worth the effort of conducting the integrated event?
   - Yes
   - Beneficial for combined Arms maneuvering
   - Not good for security ops
   - CPOF took from 0500-1500 to setup
   - BDE TOC took 2 weeks (in theater only have 3 hrs)
   - BN TOC took a day (in theater only has 1 hr)

Overall BN Comments

- Don't split BN in between different environments if mutually supporting
- Cross domain effects: V could see C& V

- o Had to design so L stays out of the way of C& V
- Pace of attack would out weight pace of L
- FSO call for fire- call separate entity from BN CMD
- Fire missions took 30 mins or were cancelled
- Integrating CCTT couldn't talk to AVCATT
  - o Had to go through 5 people to get to AVCATT person
- Hit with FBCB2 down range
- Still had to rotate through each environment to manage
- Unit solely in CCTT
- Indirect fire extremely unrealistic
- Live has to drive HITS
- Had OCs Army atrophied so much had to pull to get support (haven't done much only at CTC- OC work)
- Not able to do true 24-hr ops

Appendix B: ABCT Survey Tool

Introduction

The following survey is about which Training Aids, Devices, Simulators, and Simulations (TADSS) your unit uses to train collective training tasks. Your input will be part of a study that will drive how the Army trains collective tasks in the future. Your input is therefore, important to the Army and the future of collective training. This survey will take no more than 20 minutes with a maximum of 15 questions.

Directions

You are part of a Combined Arms Battalion with the following METLs. Your unit is in the Ready/Train phase of the ARFORGEN cycle. Assume your unit has completed the required train-up. You are looking to conduct a capstone exercise(s) at Homestation incorporating these tasks.

BN METL
· Execute the Operations Process
· Perform ISR
· Conduct Offensive Ops
· Conduct Defensive Ops
· Conduct Stability Ops

IN CO METL
· Plan and Prepare Operations
· Conduct Deliberate Attack
· Conduct Movement to Contact
· Conduct a Defense

AR CO METL
· Conduct a Movement to Contact
· Breach an Obstacle
· Conduct Attack
· Conduct Defense
· Occupy an Assembly Area

HHC CO METL
· Provide Indirect Fires
· Conduct Reconnaissance and Security
· Plan and Prepare Ops
· Evacuate and Treat Casualties

FSC CO METL
· Establish BSA
· Provide Distribution and Transportation
· Provide Field Maintenance and Recovery
· Provide Food Service Support

1. What is your current installation?

○ Ft. Bliss

○ Ft. Benning

○ Ft. Rilley

○ Ft. Stewart

○ Ft. Carson

Other (please specify)

[   ]

2. Please select the position that best describes you.

- ○ BN CDR
- ○ S-3
- ○ BN CSM
- ○ Infantry CO CDR
- ○ Armor Co CDR
- ○ HHC CDR
- ○ FSC CO CDR

Please answer the following questions with respect to the following METLs.

Execute the Operations Process
Perform ISR
Conduct Offensive Ops
Conduct Defensive Ops
Conduct Stability Ops

3. Please state whether or not you are familar with the following TADSS.

	Yes	No
I-Miles/Miles	○	○
AVCATT	○	○
CCTT	○	○
CPX (Constructive Simulation)	○	○

4. If you were to train these METL tasks in the least number of training exercises, how many exercises would you do?

○ 1

○ 2

○ 3

○ 4

○ 5

BN: Combination of training objectives

Two Training Events

5. Please select the combination of training tasks that would be trained in the first exercise.

☐ Execute the Operations Process

☐ Perform ISR

☐ Conduct Offensive Ops

☐ Conduct Defensive Ops

☐ Conduct Stability Ops

6. Please select the combination of training tasks that would be trained in the second exercise.

☐ Execute the Operations Process

☐ Perform ISR

☐ Conduct Offensive Ops

☐ Conduct Defensive Ops

☐ Conduct Stability Ops

7. Are the excercises multi-echelon?

○ Yes

○ No

Please answer the following questions with respect to the following METLs.

Plan and Prepare Operations
Conduct Movement to Contact
Conduct a Defense

8. Please state whether or not you are familar with the following TADSS.

	Yes	No
I-Miles/Miles	○	○
AVCATT	○	○
CCTT	○	○
CPX (Constructive Simulation)	○	○

9. If you were to train these METL tasks in the least number of training exercises, how many exercises would you do?

○ 1

○ 2

○ 3

○ 4

○ 5

Two Training Events

10. Please select the combination of training tasks that would be trained in the first exercise.

☐ Plan and Prepare Operations

☐ Conduct Deliberate Attack

☐ Conduct Movement to Contact

☐ Conduct a Defense

11. Please select the combination of training tasks that would be trained in the second exercise.

☐ Plan and Prepare Operations

☐ Conduct Deliberate Attack

☐ Conduct Movement to Contact

☐ Conduct a Defense

12. Are the excercises multi-echelon?

○ Yes

○ No

BN: Combination of training objectives

Three Training Events

13. Please select the combination of training tasks that would be trained in the first exercise.

☐ Execute the Operations Process

☐ Perform ISR

☐ Conduct Offensive Ops

☐ Conduct Defensive Ops

☐ Conduct Stability Ops

14. Please select the combination of training tasks that would be trained in the second exercise.

☐ Execute the Operations Process

☐ Perform ISR

☐ Conduct Offensive Ops

☐ Conduct Defensive Ops

☐ Conduct Stability Ops

15. Please select the combination of training tasks that would be trained in the third exercise

☐ Execute the Operations Process

☐ Perform ISR

☐ Conduct Offensive Ops

☐ Conduct Defensive Ops

☐ Conduct Stability Ops

16. Are the excercises multi-echelon?

○ Yes

○ No

IN CO Combination of training objectives

Three Training Events

17. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

18. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

19. Please select the combination of training tasks that would be trained in the third exercise

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

20. Are the excercises multi-echelon?

- ○ Yes
- ○ No

BN: Combination of training objectives

Four Training Events

21. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Execute the Operations Process
- ☐ Perform ISR
- ☐ Conduct Offensive Ops
- ☐ Conduct Defensive Ops
- ☐ Conduct Stability Ops

22. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Execute the Operations Process
- ☐ Perform ISR
- ☐ Conduct Offensive Ops
- ☐ Conduct Defensive Ops
- ☐ Conduct Stability Ops

23. Please select the combination of training tasks that would be trained in the third exercise.

- ☐ Execute the Operations Process
- ☐ Perform ISR
- ☐ Conduct Offensive Ops
- ☐ Conduct Defensive Ops
- ☐ Conduct Stability Ops

24. Please select the combination of training tasks that would be trained in the fourth exercise.

- ☐ Execute the Operations Process
- ☐ Perform ISR
- ☐ Conduct Offensive Ops
- ☐ Conduct Defensive Ops
- ☐ Conduct Stability Ops

25. Are the excercises multi-echelon?

○ Yes

○ No

IN CO Combination of training objectives

Four Training Events

26. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

27. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

28. Please select the combination of training tasks that would be trained in the third exercise.

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

29. Please select the combination of training tasks that would be trained in the fourth exercise.

- ☐ Plan and Prepare Operations
- ☐ Conduct Deliberate Attack
- ☐ Conduct Movement to Contact
- ☐ Conduct a Defense

30. Are the excercises multi-echelon?

- ○ Yes
- ○ No

BN METL TADSS Preference

Given the Training Aids, Devices, Simulators, and Simulations (TADSS) available at your installation, how would you best train the METL tasks as listed below?

Please rank the TADSS with your preference where "4" is most prefered and "1" is least prefered. If you do not use a particular TADDS for this METL select "0." If a particular TADDS is unavailable at your installation please select "N/A". If a TADDS you would use is not listed, please indicate it in the "other" box.

*31. How would you best train Execute the Operations Process?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*32. How would you best train Perform ISR?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*33. How would you best train Conduct Offensive Ops?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

✱ 34. How would you best train Conduct Defensive Ops?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

✱ 35. How would you best train Conduct Stability Ops?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

IN METL TADSS Preference

Given the Training Aids, Devices, Simulators, and Simulations (TADSS) available at your installation, how would you best train the METL tasks as listed below?

Please rank the TADSS with your preference where "4" is most prefered and "1" is least prefered. If you do not use a particular TADDS for this METL select "0." If a particular TADDS is unavailable at your installation please select "N/A". If a TADDS you would use is not listed, please indicate it in the "other" box.

*36. How would you best train Plan and Prepare Operations?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*37. How would you best train Conduct Deliberate Attack?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*38. How would you best train Conduct Movement to Contact?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

✱39. How would you best train Conduct a Defense?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

Please answer the following questions with respect to the following METLs.

Conduct a Movement to Contact
Breach an Obstacle
Conduct Attack
Conduct Defense
Occupy an Assembly Area

40. Please state whether or not you are familar with the following TADSS.

	Yes	No
I-Miles/Miles	○	○
AVCATT	○	○
CCTT	○	○
CPX (Constructive Simulation)	○	○

41. If you were to train these METL tasks in the least number of training exercises, how many exercises would you do?

○ 1

○ 2

○ 3

○ 4

○ 5

Two Training Events

42. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

43. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

44. Are the excercises multi-echelon?

- ○ Yes
- ○ No

AR CO Combination of training objectives

Three Training Events

45. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

46. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

47. Please select the combination of training tasks that would be trained in the third exercise

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

48. Are the excercises multi-echelon?

- ○ Yes
- ○ No

AR CO Combination of training objectives

Four Training Events

49. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

50. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

51. Please select the combination of training tasks that would be trained in the third exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

52. Please select the combination of training tasks that would be trained in the fourth exercise.

- ☐ Conduct a Movement to Contact
- ☐ Breach an Obstacle
- ☐ Conduct Attack
- ☐ Conduct Defense
- ☐ Occupy an Assembly Area

53. Are the excercises multi-echelon?

○ Yes

○ No

AR METL TADSS Preference

Given the Training Aids, Devices, Simulators, and Simulations (TADSS) available at your installation, how would you best train the METL tasks as listed below?

Please rank the TADSS with your preference where "4" is most prefered and "1" is least prefered. If you do not use a particular TADDS for this METL select "0." If a particular TADDS is unavailable at your installation please select "N/A". If a TADDS you would use is not listed, please indicate it in the "other" box.

*54. How would you best train Conduct a Movement to Contact?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*55. How would you best train Breach an Obstacle?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*56. How would you best train Conduct Attack?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

✱57. How would you best train Conduct Defense?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

_____

✱58. How would you best train Occupy an Assembly Area?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

_____

Please answer the following questions with respect to the following METLs.

Provide Indirect Fires
Conduct Reconnaissance and Security
Plan and Prepare Ops
Evacuate and Treat Casualties

59. Please state whether or not you are familar with the following TADSS.

	Yes	No
I-Miles/Miles	○	○
AVCATT	○	○
CCTT	○	○
CPX (Constructive Simulation)	○	○

60. If you were to train these METL tasks in the least number of training exercises, how many exercises would you do?

○ 1

○ 2

○ 3

○ 4

○ 5

Two Training Events

61. Please select the combination of training tasks that would be trained in the first exercise.

☐ Provide Indirect Fires

☐ Conduct Reconnaissance and Security

☐ Plan and Prepare Ops

☐ Evacuate and Treat Casualties

62. Please select the combination of training tasks that would be trained in the second exercise.

☐ Provide Indirect Fires

☐ Conduct Reconnaissance and Security

☐ Plan and Prepare Ops

☐ Evacuate and Treat Casualties

63. Are the excercises multi-echelon?

○ Yes

○ No

Three Training Events

64. Please select the combination of training tasks that would be trained in the first exercise.

☐ Provide Indirect Fires

☐ Conduct Reconnaissance and Security

☐ Plan and Prepare Ops

☐ Evacuate and Treat Casualties

65. Please select the combination of training tasks that would be trained in the second exercise.

☐ Provide Indirect Fires

☐ Conduct Reconnaissance and Security

☐ Plan and Prepare Ops

☐ Evacuate and Treat Casualties

66. Please select the combination of training tasks that would be trained in the third exercise

☐ Provide Indirect Fires

☐ Conduct Reconnaissance and Security

☐ Plan and Prepare Ops

☐ Evacuate and Treat Casualties

67. Are the excercises multi-echelon?

○ Yes

○ No

HHC CO Combination of training objectives

Four Training Events

68. Please select the combination of training tasks that would be trained in the first exercise.

- ☐ Provide Indirect Fires
- ☐ Conduct Reconnaissance and Security
- ☐ Plan and Prepare Ops
- ☐ Evacuate and Treat Casualties

69. Please select the combination of training tasks that would be trained in the second exercise.

- ☐ Provide Indirect Fires
- ☐ Conduct Reconnaissance and Security
- ☐ Plan and Prepare Ops
- ☐ Evacuate and Treat Casualties

70. Please select the combination of training tasks that would be trained in the third exercise.

- ☐ Provide Indirect Fires
- ☐ Conduct Reconnaissance and Security
- ☐ Plan and Prepare Ops
- ☐ Evacuate and Treat Casualties

71. Please select the combination of training tasks that would be trained in the fourth exercise.

- ☐ Provide Indirect Fires
- ☐ Conduct Reconnaissance and Security
- ☐ Plan and Prepare Ops
- ☐ Evacuate and Treat Casualties

72. Are the excercises multi-echelon?

- ☐ Yes
- ☐ No

HHC METL TADSS Preference

Given the Training Aids, Devices, Simulators, and Simulations (TADSS) available at your installation, how would you best train the METL tasks as listed below?

Please rank the TADSS with your preference where "4" is most prefered and "1" is least prefered. If you do not use a particular TADDS for this METL select "0." If a particular TADDS is unavailable at your installation please select "N/A". If a TADDS you would use is not listed, please indicate it in the "other" box. .

*73. How would you best train Provide Indirect Fires?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*74. How would you best train Conduct Reconnaissance and Security?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*75. How would you best train Plan and Prepare Ops?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*76. How would you best train Evacuate and Treat Casualties?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

Please answer the following questions with respect to the following METLs.

Establish BSA
Provide Distribution and Transportation
Provide Field Maintenance and Recovery
Provide Food Service Support

77. Please state whether or not you are familar with the following TADSS.

	Yes	No
I-Miles/Miles	○	○
AVCATT	○	○
CCTT	○	○
CPX (Constructive Simulation)	○	○

78. If you were to train these METL tasks in the least number of training exercises, how many exercises would you do?

○ 1

○ 2

○ 3

○ 4

○ 5

FSC CO Combination of training objectives

Two Training Events

79. Please select the combination of training tasks that would be trained in the first exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

80. Please select the combination of training tasks that would be trained in the second exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

81. Are the excercises multi-echelon?

○ Yes

○ No

FSC CO Combination of training objectives

Three Training Events

82. Please select the combination of training tasks that would be trained in the first exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

83. Please select the combination of training tasks that would be trained in the second exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

84. Please select the combination of training tasks that would be trained in the third exercise

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

85. Are the excercises multi-echelon?

○ Yes

○ No

FSC CO Combination of training objectives

Four Training Events

86. Please select the combination of training tasks that would be trained in the first exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

87. Please select the combination of training tasks that would be trained in the second exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

88. Please select the combination of training tasks that would be trained in the third exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

89. Please select the combination of training tasks that would be trained in the fourth exercise.

☐ Establish BSA

☐ Provide Distribution and Transportation

☐ Provide Field Maintenance and Recovery

☐ Provide Food Service Support

90. Are the excercises multi-echelon?

○ Yes

○ No

FSC METL TADSS Preference

Given the Training Aids, Devices, Simulators, and Simulations (TADSS) available at your installation, how would you best train the METL tasks as listed below?

Please rank the TADSS with your preference where "4" is most prefered and "1" is least prefered. If you do not use a particular TADDS for this METL select "0." If a particular TADDS is unavailable at your installation please select "N/A". If a TADDS you would use is not listed, please indicate it in the "other" box.

*91. How would you best train Establish BSA?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*92. How would you best train Provide Distribution and Transportation?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*93. How would you best train Provide Field Maintenance and Recovery?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

[   ]

*94. How would you best train Provide Food Service Support?

	4	3	2	1	0	N/A
I-Miles/Miles	○	○	○	○	○	○
AVCATT	○	○	○	○	○	○
CCTT	○	○	○	○	○	○
CPX (Constructive Simulation)	○	○	○	○	○	○

Other (please specify)

The End.

Thank you for your time and support!

Appendix C: FUA Survey Tool

Instructions

This survey is a data collection tool for your feedback during Week 3 of the LVC-IA FUA. We are looking for your feedback on whether using an Integrated Training Environment added training value.

1. Please select the position that best describes you:

☐ BN CDR

☐ S-3

2. What is the number of times you would want to use LVC-IA in a year?

3. Please select all BN METLS that were trained:

☐ Execute the operations process

☐ Perform ISR

☐ Conduct Offensive Ops

☐ Conduct Defensive Ops

☐ Conduct Stability Ops

4. Please select your level of satisfaction of the following:

	Very Dissatisfied	Dissatisfied	Neither Satisfied/Dissatisfied	Satisfied	Very Satisfied
What was your overall satisfaction with the LVC-IA as a training tool enabling an integrated training environment?	○	○	○	○	○

5. Please select the answer that bests fits your position: Overall I would use the LVC-IA again,

○ Most likely

○ More likely

○ Likely

○ Less Likely

○ Least Likely

Other (please specify)

6. If you use an LVC-IA again, which environments would you use to conduct training?

☐ Live

☐ Virtual

☐ Constructive

Other (please specify)

[ ]

7. Did you have to undergo any specialized training to participate in the LVC-IA event (besides HITS training)?

[ ]

8. Which environment(s) did you receive the best training value from:

☐ Live

☐ Virtual

☐ Constructive

Other (please specify)

[ ]

9. Did you synchronize the training calendar of your subordinates to achieve the best results for this exercise?

○ Yes

○ No

Other (please specify)

[ ]

10. Please select your level of agreement to the following statements.

	Strongly Disagree	Disagree	Neither Agree/Disagree	Agree	Strongly Agree
Overall the LVC-IA was burdensome to use.	○	○	○	○	○
The companies received the training they required.	○	○	○	○	○
Using the LVC-IA added value to training.	○	○	○	○	○
The expanded communication with units added training value.	○	○	○	○	○
The integration of L,V,C added training value.	○	○	○	○	○
The use of multiple environments increase the realistic effect of the event.	○	○	○	○	○
The LVC-IA allowed for multiple warfighting functions simultaneously.	○	○	○	○	○
Training multiple warfighting functions simultaneously added training value.	○	○	○	○	○

Other (please specify)

11. If any, what was the additional manpower needed to run the training exercise?

12. What was the estimated prep/planning time for the exercise?

13. What was the length (time) of the exercise?

CO CDR

This survey is a data collection tool for your feedback during Week 3 of the LVC-IA FUA. We are looking for your feedback on whether using an Integrated Training Environment added training value.

1. Please select the position that best describes you

- ○ Infantry CO CDR
- ○ Armor CO CDR
- ○ FSC CO CDR
- ○ HHC CO CDR

2. Please select your level of satisfaction to the following question:

	Very Dissatisfied	Dissatisfied	Neither Dissatisfied/Satisfied	Satisfied	Very Satisfied
What is your overall satisfaction with the LVC-IA as a training tool?	○	○	○	○	○

3. Please select your level of agreement for the following statements:

	Strongly Disagree	Disagree	Neither Agree/Disagree	Agree	Strongly Agree
You received quality training.	○	○	○	○	○
You had to compromise your training to participate in the larger event.	○	○	○	○	○
The communication across training environments added training value.	○	○	○	○	○
The use of integrated multiple environments made the exercise more realistic.	○	○	○	○	○

4. If any, what was the additional manpower needed to run the training exercise?

5. What was the estimated prep/planning time for the exercise?

6. Please select the METLS that were trained

☐ Plan and Prepare Operations

☐ Conduct Deliberate Attack

☐ Conduct Movement to Contact

☐ Conduct Defense

7. Please select the METLS that were trained

☐ Conduct Movement to Contact

☐ Breach an Obstacle

☐ Conduct Attack

☐ Conduct Defense

☐ Occupy an Assembly Area

FSC METLS

8. Please select the METLS that were trained

- ☐ Establish BSA

- ☐ Provide Distribution and Transportation

- ☐ Provide Field Maintenance and Recovery

- ☐ Provide Food Service Support

9. Please select the METLS that were trained

☐ Provide Indirect Fires

☐ Conduct Reconnaissance and Security

☐ Plan and Prepare Ops

☐ Evaluate and Treat Causalities

This survey is a data collection tool for your feedback during Week 3 of the LVC-IA FUA. We are looking for your feedback on how using an Integrated Training Environment affected training.

1. Did you require any additional training to set-up and run the LVC-IA system?

○ Yes

○ No

Other (please specify)

[   ]

2. Please give your level of familiarity of the following.

	Unfamiliar	Slightly Familiar	Familiar	Very Familiar
JLCTCC	○	○	○	○
CCTT	○	○	○	○
HITS	○	○	○	○
AVCATT	○	○	○	○
C2	○	○	○	○

3. What was the manning requirements of the staff to run a LVC event using LVC-IA for the EXCON?

[   ]

4. What was the manning requirements of the staff to run a LVC event using LVC-IA for Constructive?

[   ]

5. What was the manning requirements of the staff to run a LVC event using LVC-IA for Live?

[   ]

6. What was the manning requirements of the staff to run a LVC event using LVC-IA for Virtual (CCTT and AVCATT)?

[   ]

7. What are the manning requirements of the staff to run a standalone L and C event for the EXCON?

[   ]

8. What are the manning requirements of the staff to run a standalone L and C event for the Constructive?

[text box]

9. What are the manning requirements of the staff to run a standalone L and C event for the Live?

[text box]

10. What was the prep-time required for the 96-hour event exclusive of scenario development?

[text box]

11. Please rate your level of agreement for the following questions.

	Strongly Disagree	Disagree	Neither Agree/Disagree	Agree	Strongly Agree
The system was overly complex to setup.	○	○	○	○	○
The system was overly complex to run.	○	○	○	○	○
The system remained seamless to the user.	○	○	○	○	○
During the training, the system was easy to use.	○	○	○	○	○
The downtime impacted the user.	○	○	○	○	○
The exercise is repeatable without developer assistance.	○	○	○	○	○

Other (please specify)

[text box]