Performance-based Cross-cultural Competence Assessment and Training

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ABSTRACT

There is a widely recognized need to better conceptualize and measure cross-cultural competence (3C). Unfortunately, the many theoretical frameworks that serve as a foundation for 3C lack integration and most recent efforts to measure 3C have used only one research method (i.e., self-report). The objective of our research is to address the need for a transdisciplinary, globally appropriate theoretical conceptualization of 3C and to provide a sound basis for developing methods for assessment and training. Rather than relying solely on self-report, we draw upon a variety of disciplines, including anthropological, sociological, and psychological measures.

We consider socio-cultural encounters (SCEs) as the basis for 3C. We illustrate our current approach to assessing 3C using cultural dilemmas based on universal dimensions involving how values are expressed within SCEs. Using this approach, we have developed a database of cultural dilemmas through survey of US military personnel with operational experience. We have used these dilemmas to build an assessment instrument and have conducted pilot-testing with a broad range of service personnel and DoD civilian employees. We will present the results of these surveys and pilot-tests, as well as the on-going development of interactive scenarios and simulations as training tools derived from these dilemmas. These scenarios and simulations are being developed with commercial game technology to immerse the learner within SCEs and require the learner to recognize culturally-influenced values, beliefs, and social protocols and respond accordingly. Performance is measured by the learner's ability to recognize socio-cultural differences as evidenced in virtual stake-holders' behaviors and to select a course of action adaptive to the perceived context. Finally, we will present the results of pilot-testing these interactive scenarios and the follow-on research planned to demonstrate our proposed theoretical framework for C3.

ABOUT THE AUTHORS

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INTRODUCTION

Researchers and practitioners have been searching for theoretical perspectives and practical approaches to explain culture and to apply knowledge about culture to various situations. This search is not new, as humans have been trying to understand culture and cultural differences throughout history. In recent years, the leaders of military organizations have increasingly recognized the need to understand culture and to develop cultural competency within their organizations. This renewed focus is especially important when nation-building, peace-keeping, and negotiating cultural differences are seen as crucial roles for warfighters. Subsequently, there has been a proliferation of discussions on the concept and methods needed to assess and train warfighters in cross-cultural competency (3C). As one approach, the Defense Language National Security Education Office (DLNSEO) conceptualizes 3C as a "set of culture-general knowledge, skills, abilities, and attributes (KSAAs) developed through education, training, and experience that provide the ability to operate effectively within any culturally complex environment." These KSAAs may be "augmented through the acquisition of cultural, linguistic, and regional proficiency," but are primarily viewed as general (i.e., applicable to all cultures) and not applicable to only specific cultures. We consider it crucial to understand and develop applications in cultural-general ways, as warfighters cannot be specifically trained for all possible areas where they might be deployed.

As part of a project funded in part by the Office of the Secretary of Defense and managed by the Office of Naval Research, Vcom3D and the Defense Equal Opportunity Management Institute (DEOMI) have been collaborating to develop new ways to conceptualize, assess, and train 3C. DEOMI is a non-profit US Government organization, whose mission is to assist its customers in enhancing their mission readiness and capabilities by promoting human dignity through education in equity, diversity, and cultural competency, as well as provide research and worldwide consultation. Vcom3D develops game-based, immersive simulations for assessing and training interpersonal skills. This paper reports on our joint project to develop a globally appropriate concept and associated method for understanding 3C, and developing applications for 3C assessment and training.

The foundation of our approach involves the three interrelated concepts of socio-cultural encounters (SCEs), cultural values dimensions, and cultural dilemmas. Our approach supports current and previous 3C tools, but adds value by shifting the focus from the individual to an interactional level. We conceptualize 3C as first and foremost occurring within SCEs, namely interactions between or among people who hold different cultural perspectives. These SCEs may be experienced in actual interactions, or they may be practiced in imaginary or virtual scenarios. The competence aspect of SCEs is based on the outcomes of these encounters. To be competent in a culturally general way, there also needs to be a framework for understanding SCEs from a broad perspective, and we use cultural values dimensions. There are many systems to understand and apply cultural values dimensions; however, we have based our approach on that of Trompenaars (1997) work, which uses seven basic dimensions; unversalism-particularism, individualism-collectivism, neutral-emotional, achievement-ascription, sequential-

synchronic, and internal-external control.:. During SCEs, individuals and groups with differences on these cultural values dimensions often collide, and this results in cultural dilemmas. 3C involves interacting successfully during SCEs by recognizing cultural value dimensions and using them to optimize outcomes on cultural dilemmas. Consequently, our approach to 3C uses tools involving experiential assessment and training based on participants' actual performance in scenarios and simulations. This is quite different from employing self-report questionnaires that look at the individual, as instead we are looking at interactions.

We are currently working with students at DEOMI who represent all five military services, and DoD civilians, and have had previous multicultural deployment experiences. We are harvesting samples of actual cultural dilemmas from their experiences with the goal of entering these into scenarios and simulations, and ultimately into advanced gaming applications. When these are completed, participants will be provided opportunities to experience a variety of SCEs in simulated environments. Their performance will then be assessed interactively and, as they go through multiple simulations, they will have the benefit of progressive learning that is interactive and engaging, rather than merely being taught the "rules". The simulated SCEs will be on the cultural dilemmas that came from experienced warfighters, which will be similar to what participants might face while also being more generalized, and not tied to a specific setting.

As we create the simulations and scenarios, an issue that we must consider, is the detail to which incidents need to be recreated in order to provide positive training transfer. The failure of many cross-cultural operations often stems from a Warfighter's inability to perceive the cultural differences that are indicators of dilemmas and potential for conflict. For example, non-verbal cues that could indicate differences in values often go unnoticed (Zbylut and Metcalf, 2009). Likewise, the significance of objects and social protocols may go unnoticed. In culture-specific training, it is possible, for example, to train a Warfighter to recognize a Qur'an from other books, or to realize the importance of seating arrangements. In culture-general training, we seek not to train the student to recognize specific actions and objects, but to discern visual and aural indications that the stakeholders view the situation from a different cultural perspective. We therefore include visual and aural cues in our simulation that must be recognized as potentially significant even though the learner has not been trained in the specifics of the culture being simulated.

THE CONCEPTUAL PROBLEM

Although culture is a word commonly used in many situations, few people deeply understand it, as it is not an easy concept to grasp. Insofar as there is increasing cultural complexity in the contemporary world, these difficulties are of growing relevance to all spheres of life.

One way to begin to envision this complexity is to examine the "cultures of those people who study culture." There have been many different approaches to understanding culture. In addition, all who try to understand culture start from their own cultural assumptions, which are always an impediment that has to be overcome to understand others' cultures. There are also many differences, such as national and regional, religious and ethnic, and organizational differences, that may contribute to biases in how culture is conceptualized. The fact that culture encompasses most aspects of our existence, and that the perceptual lenses we use to view culture are unavoidably filtered by various cultural biases, makes this challenging.

Models and methods for understanding and applying culture in a general way must be appropriate for any local situation, yet be broadly applicable to many cultures. To effectively accomplish this, we first need an approach which enables us to operationalize the concept. The core concept we use is the SCE. We consider the SCE concept to provide a culturally relative conceptual framework as a start, for there are no absolute right or wrong answers in dealing with SCEs, but there is only what does or does not work within a given cultural context. During SCEs, in which cultural dilemmas need to be handled, certain performances are more or less adaptive, but these are not based on any rote application of simple rules. In brief, SCEs provide an entrée to better conceptually frame culture without either losing relevance or imposing our own culture in our understanding of others' culture. Combined with cultural dimensions and cultural dilemmas, this provides our way toward a globally relevant foundation for 3C understandings and applications, including assessment and training.

SOCIO-CULTURAL ENCOUNTERS

First and foremost, human interactions, including cross-cultural ones, take place within a SCE. For example, early humans began to develop cultural knowledge as a means for adapting to a variety of

ecological and social contexts. SCEs were the location and means by which early language, social relations, and cooperative activities among band and tribal members developed. SCEs were the settings for human knowledge acquisition and transfer within and across societies. SCEs became the platform for subsistence acquisition and sharing, economic exchanges, kinship, socialization, conflicts, and all the human activities we have recognized as human culture. Further, worldviews, beliefs, and values formed the basis for participants' behaviors within SCEs.

In early human societies, most participants entered SCEs with homogeneous or at least similar worldviews, beliefs, and values. A fundamental social basis of band and tribal societies was the shared culture among the members of those societies. Conflicts and misunderstandings in SCEs due to cultural differences were infrequent, as potential misunderstandings across cultures were limited to infrequent contact with others who might wander into a band or tribe's path.

As human relations evolved into more complex societies, however, their SCEs also became more complex. Trading, kinship-related village ties, population growth, and conquest of one societal group over another became more frequent reasons for humans to interact with others who were culturally different from them. Exploration, military conquest and occupation, human migration, ecological pressures, and missionary efforts were all driving forces behind increasing diversity in SCEs. Homogeneous SCEs within small cohesive groups were shared due to ethnicity, political affiliations, and economic exchange principles. However, heterogeneous SCEs became more frequent with greater diversity, and the participants within SCEs increasingly needed to understand and be able to be competent with humans from other groups. In the era of colonialism, a common strategy for dealing with persons who were culturally different involved coercion, such as using force to enslave or kill them. Resource competition, distribution of power, and a complex division of labor frequently were influences related to justifications of these harsh approaches to cultural differences. In more recent times, as some societies have developed a greater appreciation for cultural differences, there has been increasing interest in cooperation, compromise, and even reconciliation during SCEs.

For these reasons, we consider SCEs to be the basic unit for understanding 3C, and for applications such as 3C assessment and training. Our focus is not on the individuals as actors, as much as on the SCEs themselves, which always involve at least two actors. It is the pattern between the two, or among larger numbers, that determines whether SCEs are adaptive or not, as this does not just depend solely on the attributes of individuals but also on their interactions, which may be more than the sum of their parts.

Cultural dilemmas occur during SCEs in which there are actors with different and often competing and even conflicting worldviews, beliefs, and values. These dilemmas involve differences that are often not well understood by the actors involved, who may approach the dilemma from their own cultural vantage while being relatively blind to that of the other. SCEs are fundamental to understanding culture, but it is the concept of cultural dilemma that holds the real power during SCEs. The outcome of SCEs in which cultural dilemmas need to be handled provides our way to approach 3C operationally. When cultural dilemmas are handled successfully in a particular context, this reflects high 3C in that context. This approach is culturally relative in that what might work well within one cultural context might fail abysmally in another, so there are no universally right or wrong ways to demonstrate 3C. Instead, there are adaptive behaviors that work within the SCE and involve interactional, not just individual, attributes. Cultural dilemmas can be observed in SCEs within any operational context as the individual actors attempt to navigate complex, and often competing or even conflicting, circumstances. Using 3C in resolving and reconciling cultural dilemmas within SCEs is a fundamental requirement for the understanding of behaviors needed to create adaptive responses.

THE METHODOLOGICAL PROBLEM

The ethnographic record tells us that tribal societies usually divided people into "humans" and "non-humans," with one's own society inevitably referred to as human and all others referred to as non-human. In 1537, Pope Paul III decreed that all the strange-looking peoples encountered in European explorations were indeed "human" (and not subhuman, as many Europeans had thought). So-called "races" were identified to categorize humans according to superficial physical traits, but the numbers of races and their characteristics have never been a scientifically valid concept. In the 19th century, anthropologists began to conduct ethnographic research, in particular on the tribal societies of the world, while in the 20th century, there were concerted attempts to make sense of all the ethnographic research (e.g., constructing the Human Relations Area Files). Until the 1980s, most cultural research was conducted by anthropologists and

sociologists, with some modest contributions by psychologists and other social scientists.

In recent decades, however, there has been a burgeoning interest in culture from management, organizational behavior, and psychology as disciplines, which have approached culture primarily from an individualistic vantage. A variety of concepts and methods for understanding culture, as well as 3C, have emerged from these efforts, as economic, political, military, and other human activities created increased needs to adapt to the newly emerging global community. The current situation is that most 3C methods are limited in appropriateness by professional and disciplinary myopia focused on the individual level of analysis. There has been a proliferation of self-report inventories, for example, which involve an individualistic focus, and that do not very effectively operationalize cultural variables such as 3C. In fact, considering culture only from an individualistic perspective is itself congruent with Western cultural biases, as Western culture is known for being individualistic (Trompenaars, 1997). Due to these disciplinary and Western biases, many 3C concepts and methods are not culturally relative, and many do not adequately cover the range of human variation needed to be cultural general. For example, cultural dilemmas within SCEs do not have any "right" answers, which many might find disturbing. Instead, the options for behavior during SCEs are based on the values and worldviews of various actors in the context of the encounter, and these interactive variables determine the outcome, which may or may not be adaptive. If one option in dealing with a cultural dilemma is presented as consistently superior over others, the approach is inevitably based on ethnocentric biases.

OUR SCE/DILEMMAS APPROACH

We are eliciting and using actual cultural dilemmas within SCEs to develop a culturally relative and globally appropriate method for 3C assessment and training. Our products, which are works in progress, will include the following: Cross-Cultural Dilemmas Assessment (CCDA), Cross-Cultural Dilemmas Simulations (CCDS), a database of responses from both the CCDA and CCDS, and the Cross-Cultural Dilemmas Training System (CCDTS). We present these as stages with details on how they have been, or will be, developed.

STAGE ONE: CROSS-CULTURAL DILEMMAS ASSESSMENT (CCDA)

From January to May, 2012, we conducted focus groups of experienced warfighters from all Services. Our participants consisted of 7 focus groups of 15 to 16 members each, with a total of 108, who were attending the DEOMI Equal Opportunity Advisor (EOA) training course at Patrick Air Force Base. In the focus groups, our team elicited cultural dilemmas experienced by the participants during their military assignments, both domestic and international. Most participants had served in operations in Iraq, Afghanistan, or other combat areas. Our goal was to create cultural dilemmas to use as the content for the CCDA and subsequent 3C assessment and training.

The elicited cultural dilemmas were harvested, and then classified in an inventory according to the most prominent cultural dimensions (e.g., individual vs. collective) present in the SCE. Then, the cultural dilemmas inventory was analyzed, and selected dilemmas were chosen by the project team for inclusion in the initial version of the CCDA. This initial version of the CCDA includes 20 scenarios in which participants are asked to review a situation involving actors with different cultural orientations and values related to the SCE. Four possible choices are presented, and the participants are asked to select one response from the four to the dilemma. The choices are presented as forced choices, in which the opposites of a cultural dimension are two of the choices (10, 0; 0, 10 on a cultural mapping grid). The other response options include an apathy response (0, 0) and a compromise response (5, 5). The forced choice options yield the participants' "best" choice for how they would respond in the SCE in an actual situation.

In our approach, 3C involves a developmental process for achieving recognition, respect, resolution, and reconciliation of cultural differences. Participants in the CCDA will receive a profile of their responses to the cultural dilemmas based on a framework using Trompenaars' cultural seven-dimension model. The participants will be shown their profile on each of the seven dimensions, with their positions on the scales indicating their values orientations within that framework. This will enable participants to better understand their cultural orientations, which is the first step in becoming culturally competent. This respect and recognition stage is essential for the next stages, resolution and reconciliation of cultural dilemmas.

There are some similarities in form between the CCDA and Situational Judgment Tests (SJTs) that are used to predict job-related performance. An SJT presents a user with a job-related situation and a set of possible responses to the situation, in either word or multimedia format, and the user is required to

select from the alternatives (see, for example, Lievens, Peeters, and Schollaert, 2008). However, there are important differences when comparing our approach. Whereas SJTs are generally designed to grade a user's (e.g., job applicant's) predicted job performance; the CCDA response profile is not meant to be viewed as good or bad in any way, and is merely descriptive. In addition, the CCDA is not intended as a test, but as a non-judgmental characterization of action within a socio-cultural context. The CCDA dilemmas will furthermore be used in a later stage of the project for interactive training in which a response to an initial situation may impact later interactions.

During the spring of 2012, the CCDA was administered twice. For the first administration of CCDA, responses were collected from each of the 108 EOA students. After minor revisions, the CCDA was administered to a second class of 132 EOA students. Most of the students responded to all 20 dilemmas, while a few completed a smaller number. Three of the dilemmas (5, 10, and 11) and the associated distribution of responses for all 240 students are described below for illustration.

Dilemma 5 You have been assigned as an advisor to a local public works project in Asia. You notice that the local leader who is in charge of managing the work group for the project is promoting only people from his village and kinship group. The supervisors he selects are older men, who may not be as motivated or educated as the younger workers in the project. You are concerned that this practice is affecting the productivity of the work group. However, you do not want to cause the local leader to "lose face." *What do you do?*

Option	No.	%
Don't get involved. It is best not to get involved with local practices.	43	17.9
Support the local leader and his practices. He should know the best way to select supervisors for the work group.	60	25.0
Tell the local leader that his practices are not acceptable. Promote achievers who will be the best supervisors.	69	28.8
Send the local leader to a training course to learn about promotion practices.	65	27.1
No Response	3	1.3
Total	240	100.0

Figure 1. Student responses for dilemma involving the ascription / achievement cultural dimension.

Dilemma 5 Explanation: This 3C dilemma involves the cultural value dimension of achievement-ascription. The achievement response (10, 0) is in apparent opposition to the ascription response (0, 10). The apathy response (0, 0) and the compromise response (5, 5) represent positions not at the opposites of the achievement-ascription values dimension. These responses indicate that there is considerable diversity in the participants' responses to this particular 3C situation. In this SCE, the warfighter might hold achievement values, while the values of the locals might be based on ascription.

Dilemma 10 Your mission is to build rapport with the elders of a traditional rural village in Afghanistan. The village is located in an important area of a region occupied by insurgents. Winning the support and cooperation of the village elders is critical to the security of the region. After brief introductions, your Afghan host, a representative of the elders present in the initial village meeting, offers a hookah pipe. Your interpreter explains that the elders will be insulted if you refuse to participate in this ritual. You suspect the pipe contains hashish. *What should you do?*

Option	No.	%
Refuse the hookah pipe.	114	47.5
Join your host and the elders in the ritual.	19	7.9
Smoke the pipe but don't inhale.	45	18.8
Offer to smoke next time you visit the village.	53	22.1
No Response	9	3.8
Total	240	100.0

Figure 2. Student responses for dilemma involving the specific / diffuse cultural dimension.

Dilemma 10 Explanation: This 3C dilemma involves the cultural value dimension of specific-diffuse. The specific response (10, 0) is in apparent opposition to the diffuse response (0, 10). In this particular SCE, the warfighter might hold specific values, while the values of the elders might be diffuse.

Dilemma 11 You are a squad leader. While visiting an Afghan village, one of your soldiers is encouraged to remove his helmet and sunglasses by a young woman in the village. She giggles and playfully shows interest in the soldier. He returns the interest and gestures for her to remove her veil. She removes her veil to reveal her face to the soldier. Unexpectedly, the woman's younger brother sees her without her veil. He is appalled and begins to beat her with a stick. *As the squad leader, how should you handle this situation?*

Option	No.	%
Ignore the beating. Move on before the situation becomes worse.	34	14.2
Stop the boy from beating his sister.	58	24.2
Locate the father and apologize for your Soldier's behavior.	102	42.6
Ask the brother to stop.	38	15.8
No Response	8	3.3
Total	240	100.0

Figure 3. Student responses for dilemma involving the particular / universal cultural dimension.

Dilemma 11 Explanation: This 3C dilemma involves the cultural value dimension of universal-particular. The particular response (10, 0) is in apparent opposition to the universal response (0, 10). In this SCE, the values of the warfighter might be universal, while the values of the village might be particularistic.

STAGE TWO: CROSS-CULTURAL DILEMMAS SIMULATIONS

The next stage in the development of our 3C assessment and training approach is to develop 3C simulations, the CCDS. These simulations will require that the participants have completed the CCDA. When participants enter the CCDS experience, they will navigate through a series of SCEs involving cultural dilemmas to complete a mission. As the participants encounter the various SCEs, they will choose responses to interact with the actors in the scenario. Simulations provide opportunities to achieve resolution and reconciliation of cultural dilemmas within the SCEs being simulated. By navigating through a series of related situations, the participant has opportunities to interactively learn to anticipate second- and third-order consequences of actions in SCEs. Difficulty can be gradually increased by adding complexity, distractors, and time pressure within the simulations, in which learners must respond and navigate human interactions involving actors with different cultural expectations in the SCEs. These provide progressive challenges in experiential learning of 3C, while interactive scenarios provide authentic visual and aural cues, including subtle non-verbal signals. Recognition of these non-verbal cues has been identified as one of the most important 3C skills by warfighters returning from deployments (Zbylut and Metcalf, 2009). Practice and reflection also has been shown to build skill and confidence (Klein, 1998).

As of June 2012, the technology pipeline for creating the CCDS has been developed and tested, and we are beginning to implement the simulations using Vcom3D's virtual human characters and the Unity 3D animation engine. One of the important considerations we intend to address is the required "fidelity of the task stimuli" (Lievens et al., 2008), which may include the use of subtle non-verbal actions that may signal characters' intent, level of engagement, or emotional reaction. For a description of the technology and methodology used for creating these simulations, the reader is referred to Sims (2005) and Silverglate, Sims, Friedman, and Glover (2011).

Our SCE simulations incorporate theories of human emotion, specifically based on appraisal theories of emotion (Scherer, 1997), which are used to modify the virtual humans' non-verbal cues in response to trainee actions. Perceived events are

appraised along a number of dimensions such as how well the event fits with the virtual human's goals (*goal conduciveness*), how well the event fits within established norms *(internal and external standards)*, and how surprising or novel the event is. We implement a subset of Scherer's appraisal and emotion dimensions. The outputs of the appraisal-based emotion system include an immediate emotional appraisal based on each perceived event, and an updated running average emotional state (updated with every event) that allows for a more coherent basis for generating behavior. It is this appraisal process that accounts for the interpretation of actions as rude or improper.

As a pilot test of the CCDS technology, we developed a Judgmental Use of Force (JUF) scenario based on experiences of US Marines who had been deployed during Humanitarian Assistance / Disaster Relief Operations.

Rather than place the JUF scenario in a real culture, we created a Caribbean island culture called Grand Mélange. This multi-ethnic culture includes population groups of African, European, and mixed heritage. In order to accomplish the mission of delivering supplies to assigned communities damaged by a hurricane, the student must resolve a series of dilemmas by observing and understanding the perspective of civilian, NGO, and tribal leaders, and adapting his actions accordingly. In one interaction, shown in Figure 4, the student confronts a young, desperate man commandeering disaster relief supplies for his own village. The culture of the man's ethnic group places a high value on ascribed status and the collective good, and is highly affective in communication.

Figure 4. Scene from Judgmental Use of Force Simulation

As the simulation progresses, the situation reaches an apparent impasse when the young man explains that supplies have been promised to his father by other Americans, and that his village is just as much in need of food as the one to which the Marine as been ordered take the supplies, and that he will use force to commandeer the supplies, if necessary. The young man displays highly emotional behavior, including waving his pistol.

When 40 American service members interacted with this simulation during pilot testing at DEOMI and other locations, their courses of action ranged from immediate capitulation to the man's demands to shooting the man within the first 10 seconds. In between there was a wide range of courses of action that included negotiating to divide the supplies, meeting with the man's father to resolve the issue, and enlisting the man's assistance in distributing supplies in return for sharing them with his village. Students who engaged in the simulation more than once achieved progressively better outcomes, including avoiding violence and working cooperatively with the villagers to distribute the supplies equitably. These initial results provide encouraging evidence that (1) we are providing sufficient visual and aural cues to engage the student and support decision making, (2) that the simulations will elicit a wide range of responses among students, and (3) that multiple exposures to the dilemmas results in improved cross-cultural competency.

The methodology use for the Judgmental Use of Force simulation is now being applied to develop simulations based on the dilemmas elicited from the EOA students.

STAGE THREE: CROSS-CULTURAL DILEMMAS DATABASE

The administration of the CCDA, and eventually the CCDS, will enable us to build a database (CCDDB) for on-going research. This research will involve exploring reliability and validity of the CCDA, CCDS, and other related products, such as the CCDTS. The database will also support research and development in 3C concepts and methods. At this time an initial database of 20 cross-cultural dilemmas has been completed and tested with 240 military personnel, including all four US military services, the Coast Guard, and DoD civilians.

STAGE FOUR: CROSS-CULTURAL DILEMMAS TRAINING SYSTEM

The CCDTS will use the CCDA and CCDS as foundations for building 3C, but is our final anticipated product. We plan to develop an initial assessment of participants' cultural orientation based on the CCDA. This will not assess individual 3C, as again that is seen as an interactive variable, but will help orient those assessed to their stance on the various value dimensions. Then participants will use

the experiences of the CCDS in resolving and reconciling dilemmas among actions in the various scenarios of the simulations, which would be experiential training, culminating in participating in the CCDTS. Our vision is that, just as airplane pilots now routinely practice on realistic simulations prior to risking lives and expensive aircraft, warfighters and others will eventually engage in 3C simulations prior to deployment in cross-cultural contexts that have similar exposure to risk.

CONCLUSION AND NEXT STEPS

We have completed Stage One, the initial development of the CCDA. To accomplish this task, we have elicited dilemmas in focus groups, and these have been classified and analyzed, as well as re-administered in a pilot version. These will be included in the CCDDB as we continue to elicit dilemmas from relevant populations and further build the database. The database will be used for the continued refinement of the CCDA. We will also use it for the development and field testing of the CCDS and the CCDTS. As each stage is developed, we will field test and, as appropriate, validate the content. The eventual product will include a performance-based approach for preparing warfighter and other personnel for the variety of cross-cultural experiences they might encounter in missions and operations around the world. It is expected that the assessment and training products will provide participants with predisposing 3C perspectives and skills appropriate for any region or SCE. Our applied goal is to provide cost-effective and scalable uses of technology to better assess and train participants in 3C by interactively developing the perspectives and skills which could enhance their effectiveness for cross-cultural adaptation in a variety of SCEs

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