



The hybrid exercise: Transitioning from discussion-based to operations-based exercises

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ABSTRACT

HSEEP emphasizes the importance of finding the appropriate balance between challenging players while not overwhelming them. Inherent in the transition from discussion-based to operations-based exercises is increased player stress. This transition is often overwhelming. A hybrid exercise is designed to assist exercise players in building their confidence in moving from discussing plans into testing plans and carrying out operations. It combines elements of both types of exercises with the purpose of creating a smoother transition from discussion-based to operations-based exercises. The development of a hybrid exercise is illustrated by way of a real life example. It is hoped sharing the concept of the hybrid exercise will encourage other exercise planners to examine the utility of combining elements of discussion-based and operations-based exercises to create a smoother transition from one type to the other.

Key words: HSEEP, exercise, planning, conduct, evaluation, hybrid

In 2002, the United States Department of Homeland Security (DHS) introduced the Homeland Security Exercise and Evaluation Program (HSEEP) with the publication of HSEEP Volume I. This document set forth a standardized procedure for planning, conducting, and evaluating preparedness exercises. Since its establishment, DHS has revised HSEEP Volume I to reflect changes in the organizational structure of DHS and has also included three additional Volumes which provide more detail on the design, planning, and evaluation process. Numerous

fundamentals now require HSEEP-compliant protocol in their training and exercise programs.¹

HSEEP defines seven types of exercises, which are categorized as either discussion-based or operations-based. As one moves through the exercises, they increase in complexity, with each exercise building on the previous exercise. This is known as the building block approach and is detailed in Table 1.¹ The purpose of this article is to suggest the building block approach could benefit from adding a third exercise category; a hybrid exercise that allows for a smoother transition from discussion-based to operations-based exercises. The article begins by reviewing the two exercise categories and the exercises comprising them. The hybrid exercise is then defined and an example of how it was used to transition from discussion-based to operations-based exercises is provided.

THE HSEEP BUILDING BLOCK APPROACH

The HSEEP Building Block Approach consists of two broad categories of exercises, discussion-based and operations-based. Discussion-based exercises include seminars, workshops, tabletop exercises, and games which allow agencies to formulate and revise their planning documents including standard operating policies and procedures (SOPs), Emergency Operations Plans (EOPs), and others. A key element of discussion-based exercises is that they are conducted in a *low-stress* environment. Through seminars and workshops, individual agencies are able to discuss the critical plan elements and develop or update EOPs. Once these plans are developed, tabletop exercises are organized to allow multiple agencies to discuss how to

Table 1. HSEEP exercises defined^{2,3}

	Exercise type	Description	When useful
Discussion-based exercises	Seminar	Informal discussion in lecture format used as an orientation to existing plans, policies, or procedures. Very low-stress environment, minimal time constraints.	Useful in an agency's preplanning phase, to introduce new material or policies.
	Workshop	Formal discussion led by a facilitator with the goal of producing a product. May use break-out sessions to explore issues that arise.	Useful in helping an agency explore issues and draft a new plan, policy, or agreement (ex. Emergency Operations Plan (EOP), Standard Operating Procedures (SOP), or Mutual Aid Agreements)
	Tabletop exercise (TTX)	Informal group discussion that brings together key decision makers from multiple agencies to work through a scenario-based problem.	Useful in helping agencies use problem solving to test and refine their plans by identifying strengths and shortfalls without the cost of resource deployment.
	Game	Simulation of a real life situation using rules, data, procedures, and often teamwork to help players analyze their existing plans.	Useful in helping agencies explore strategies, make decisions, and explore consequences without actual resource deployment.
Operations-based exercises	Drill	Supervised testing of a single component of an agency's plan using actual resources (ex. fire drill at a school)	Useful for training personnel on new equipment, testing new procedures, practicing existing skills, and before testing multiple functions in a more complex exercise.
	Functional exercise (FE)	Scripted interactive exercise conducted in real-time using simulation to test multiple functions of a single or multiple agencies' plans and coordination of resources and response in the Emergency Operations Center (EOC)	Useful for testing rapid problem solving for Emergency Operations Centers (EOCs) personnel in real-time with simulation rather than deploying resources; used prior to a full-scale exercise.
	Full-scale exercise (FSE)	Most complex, fully scripted, high-stress, real-time exercise involving actual resource deployment and response, and multiple agencies and/or jurisdictions as if a real incident had occurred.	Useful in assessing interagency/ inter-jurisdictional coordination in response to a realistic event.

establish agreements such as Memorandums of Understanding (MOU) and Mutual Aid Agreements (MAA) to coordinate their EOPs. Games allow for exploration of decision-making processes as they relate to established plans and potential consequences of those decisions without involving actual resources.

Discussion-based exercises frequently uncover many deficiencies in EOPs. In resolving such issues through discussion, the likelihood increases for players in subsequent operations-based exercises to meet their objectives. Discussion-based exercises are less

costly than operations-based exercises; therefore, it is logical to iron out such deficiencies through discussion rather than discovering such issues exist through the failure of an expensive operations-based exercise. For example, consider a full-scale exercise designed to test the ability of a hospital to handle a mass-fatality event. The exercise objective is predicated on MOUs being established between the hospital and alternate facilities with the capacity to store a large number of human remains until they can be properly processed by the morgue, as well as companies able to provide

refrigerated vehicles to assist with transport of human remains. If these MOUs are not in place, then the operations-based exercise will stall in the early phases, not allowing the issues of storage and transport of remains to be assessed because the resources would not be released. Planning and conducting a second, more costly operations-based exercise because of the failure to note a major problem in EOPs through a cheaper discussion-based exercise defeats the purpose of the HSEEP building block approach.

Operations-based exercises include drills, functional exercises, and full scale exercises. A key factor which differentiates discussion-based exercises from operations-based exercises is they are conducted in a *higher stress* environment.⁴ The purpose of a drill is for a single agency to test a specific component of their EOP. Functional exercises are designed to test the functionality of an emergency operating center (EOC), which is done using simulation so as to avoid the cost of actual resource deployment. Full-scale exercises, which are the most costly, involve full deployment of resources. Progression through an exercise program from discussion-based seminars to operations-based full-scale exercises increases the cost associated with the exercise as well as the complexity, which in turn increases risk and consequences of something going wrong in the exercise. This is because more players become involved and as resources are deployed, the likelihood for injury or equipment damage due to accidents increases. To that end, it becomes progressively more important for incorporating the lessons learned into exercise planning as agencies progress through their exercise programs.¹

Within the building block approach, the authors have noticed a critical point when the question arises as to when it is appropriate to shift from discussion-based into more complex, expensive operations-based exercises, and how to ensure the transition is successful. One significant challenge in moving from discussion-based exercises to operations-based exercises is the introduction of stress. As with any learning process, there will always be anxiety when the time comes to transition from listening and discussing to actually doing. Often the transition to operations-based exercises is overwhelming for players. This is evidenced by (a) player confusion, especially at the start of opera-

tions-based exercises,⁵ (b) player comments on the feedback forms and during the hotwash, and (c) the failure to meet exercise objectives. The impact of failing to meet objectives cannot be understated. It can cause players to lose confidence, interest, and motivation in continuing to participate in future exercises, leaving them unprepared to respond and recover in real incidents.⁶ The importance of not overwhelming the players is a consistent theme emphasized by HSEEP in exercise design. The challenge, therefore, is how to bridge the gap between discussion-based and operations-based exercises. In response to this challenge, the authors have developed and tested the concept of a hybrid exercise.

THE HYBRID EXERCISE

HSEEP does not recognize the term "hybrid exercise." However, it is the authors' experience in developing successful hybrid exercises that this is an efficient and cost-effective way to train and exercise an agency's EOP. The concept of combining components of the tabletop and functional exercises is not new, and was in fact, used recently by DHS in TOPOFF IV, although this was not referred to as a "hybrid exercise." The term *tabletop simulation* was used to describe activities taken place by those involved in the exercise discussion but not deploying resources in support of the full-scale exercise taking place.⁷

For the purpose of this discussion, the *hybrid exercise* is defined as one in which elements of an operations-based exercise are integrated into a discussion-based exercise. It is *not* combining multiple exercises sequentially. The hybrid format allows for a smoother transition between discussion and operations-based exercises; players build their confidence by taking "baby steps" toward progression to demonstrating operations. The authors' have conducted several hybrid exercises combining elements of operations-based functional exercises into a discussion-based tabletop format. A case study is now presented to illustrate the key elements of a hybrid exercise.

AN ILLUSTRATIVE EXAMPLE

In 2008, the Community Health Centers (CHCs) of Arizona approached the authors to assist in designing,

conducting, and evaluating an HSEEP-compliant exercise program to assist them in planning for emergency preparedness. The CHCs had received funding from the Arizona Department of Health Services (ADHS) to conduct preparedness exercises. However, since each CHC was at a different level in terms of their emergency planning, it was decided the CHCs would come together and pool their resources toward establishing a common plan. Together with representatives of the CHCs, the contracted team designed an initial tabletop exercise focused on the issue of mass triage in response to an explosive detonation in an apartment building.

The design team followed the eight steps in exercise design as designated in FEMA's IS-139 course.² It was determined there was a need for players to conduct additional preparedness exercises, and players self-identified the deficits in ICS training based on prior exercises. From the Target Capability List, the design team selected the Emergency Operations Center Management Capability⁸ and, using this, derived the following three *objectives* from the Activity, Identify, and Address Issues:

Objective 1: Players within the CHC ICS structure will appropriately identify issues during a mass casualty event in accordance with the CHC Emergency Operations Plan (EOP) or Standard Operating Procedure (SOP) guidance.

Objective 2: Players within the CHC ICS structure will appropriately elevate needs/issues up the chain of command as needed, while tracking assets, during a mass casualty event in accordance with CHC EOP or SOP guidance.

Objective 3: Players within the CHC ICS structure will appropriately track issues until they are resolved during a mass casualty event in accordance with CHC EOP or SOP guidance.

It was during the consideration of the scope of the exercise where it became apparent the exercise types

included in the building-block approach¹ did not adequately address the need. Players requested hands-on opportunities to practice ICS, such as those provided by operations-based exercises. However, many players had varying levels of exposure and little to no practice with ICS to date. For this reason, it seemed the players were not at a point where a true functional exercise would be appropriate, yet a tabletop also did not seem adequate in providing practical experience with ICS activation.

DESIGNING THE HYBRID EXERCISE

There were a total of 60 players. Consistent with the Tabletop exercise format, players were divided into groups of 10-12 and sat at different tables. The number of players assigned to each table was deliberate; there were enough to cover the ICS functions, including Incident Commander, the Command Staff including the Safety Officer, Liaison Officer, and Public Information Officer, and the General Staff consisting of the Planning, Logistics, Operations, and Finance/Administration Section Chiefs. Players sat at the table as they would gather at an Incident Command Post or Emergency Operations Center, however, without the added stress of phones, faxes, televisions, and so forth.

Many players mentioned during the introductions in the Player Briefing they had not been assigned an ICS role within their CHC. Others suggested what their likely assignment would be based on their current job role. To demonstrate the likelihood day-to-day job roles would differ from ICS roles, players were given a fictitious list of available staffing, equipment, supplies, and resources and were asked based on this information to choose the employee they would role-play from the list. Players would subsequently assign ICS roles to each person, for example, a physician to serve as Incident Commander, a custodian to serve as Logistics Chief, etc. This allowed players to think critically about what qualities would be best suited to fill each ICS position, and to think in terms of their assignment rather than their current job role. It also allowed those without an ICS assignment to observe and gain familiarity with the tasks associated with each ICS role. The purpose of this activity was to ease

players through discussion and deliberation into operating in an ICS format. This structure would typically be used in a Functional Exercise in preparation for a real event.

INTRODUCTION TO EXERCISE CONTROLLER/SIMCELL

The first element of the operations-based functional exercise introduced into the Tabletop format was the Simulation Cell (SIMCELL). The SIMCELL consisted of an ICS Subject Matter Expert (SME), which included three New York City Firefighters who were also Master Exercise Practitioners, a retired County Director of Emergency Management, and a retired Indian Health Service Bioterrorism and Emergency Manager. The placement of a SME at each table as a Controller allowed each group to have its own SIMCELL resource as well as an advisor to assist them in working through the scenarios presented. Each of the SMEs had personal experience with ICS and could provide real-life examples in which ICS was used to work through some of the issues at each of the tables.

Understanding the concept of the SIMCELL is critical to the success of operations-based functional exercises. The SIMCELL is often a source of confusion for players and this confusion leads to player stress. Such misunderstanding and stress can have disastrous consequences in a real functional exercise in the form of accidental requests of actual resources from real-life agencies who are not involved in the exercise. Although the Controller and SIMCELL would not typically be visible and providing direct input to players during a functional or full-scale exercise, having them present and visible helps players grasp the concept of requesting resources from a fictitious source for the purpose of exercise play.

PAPER INJECTS

The second element of operations-based exercises that was introduced into the tabletop format was the use of paper injects. The authors found the use of paper injects to be ideal in transitioning from discussion to operations-based exercises. The paper injects were prepopulated with the exercise messages and delivery instructions, and left space for the players to detail their actions in response to each inject. Injects were

delivered by the SME acting as the SIMCELL at each table one at a time. Players were then able to pass the message through their ICS chain for discussion and proper resolution, noting the response of each position along the way. As needed, the assistance of the SME was solicited. It was expected and noted by the design team that early injects would take time as the players got a feel for the flow of the exercise and communicating within an ICS structure, and the time required for each successive inject would decrease as players became more comfortable.

The use of paper injects was preferred for several reasons. First, the use of paper injects would assist in maintaining the low-stress environment necessary to foster learning in the process. Players would have time to think and log communication on paper. Also, the element of incorporating communications equipment was eliminated.

Second, the use of paper injects allowed for simultaneous functional exercises to be carried out at each table with less noise and confusion than would be part of a true functional exercise where phones, radios, or other methods of communication would be used. This method also required less staffing and resources, and thus, was more cost-effective than using additional resources. Additionally, avoiding use of telephones or radios minimized the opportunity for players to mistakenly contact and alarm authorities who were unaware of the exercise being conducted.

Third, the hybrid format as opposed to a true functional exercise allowed for interaction between the players and their SME as well as allowing the large group to reconvene between injects to discuss the approaches taken. This kept all groups on a similar schedule, which increased the ability of players to discuss and learn through the process.

Fourth, the use of paper injects assisted in training players on the importance of documentation during an emergency event. During a true emergency, thorough documentation is needed to ensure proper reimbursement and payments are made for services and resources.

Finally, use of paper injects was helpful in the evaluation of the exercise, as it created a paper trail detailing the actions taken by each group's ICS structure in

solving the problem. Paper injects reduced the number of needed evaluators thus lessening the potential for evaluators distracting player responses.⁴ In preparation for a true Functional Exercise, the use of paper injects served as a bridge, keeping stress-levels low but introducing the importance of documentation, and a physical representation of communication with the SIMCELL, both important concepts in a functional exercise.

PLAYER FEEDBACK

At the conclusion of the exercise, players were asked by exercise evaluators to complete a Player Feedback form. On review, evaluators noted comments such as, "This was the best of the three exercises so far," "Good exercise—finally starting to put it all together and understand," "Having the exercise controllers really helped, they brought true life experience," and "Strongly agreed with enforcing the ICS nomenclature with the scenario."⁵ In addition to these comments, one CHC independently contacted the exercise design team and asked for a similar exercise to be developed and conducted at their facility. This exercise took place approximately one month following the group exercise with similar success.

SUMMARY

HSEEP emphasizes the importance of finding the appropriate balance between challenging players and not overwhelming them. Inherent in the transition from discussion-based to operations-based exercises is increased player stress. In the authors' experience, this transition is often overwhelming. To meet this challenge, the authors designed a hybrid exercise fusing the discussion-based tabletop exercise with the operations-based functional exercise. A hybrid exercise is designed to assist exercise players in building their confidence in moving from discussing plans into testing plans and carrying out operations. It combines elements of exercises with the purpose of creating a smoother transition from discussion-based to operations-based

exercises. In the case study, the major elements of the operations-based exercises introduced into the tabletop format were the SIMCELL and paper injects. Hybrid exercises are not simply conducting two different exercises sequentially. It is hoped sharing the concept of the hybrid exercise will encourage other exercise planners to examine the utility of combining elements of discussion-based and operations-based exercises to create a smoother transition from one type to the other.

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