

# COMPUTER MEDIATED TABLETOP EXERCISES

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## Abstract

Tabletop exercises are one of the most popular and effective exercise types to help define and develop disaster roles and responsibilities. In a tabletop exercise a scenario is presented to the participants by a facilitator(s) and subsequent questions are posed to the participants to help them understand and enhance their disaster plan and roles. Increasingly tabletop exercises are drawing more and more participants, making it difficult and costly to actively engage all participants and capture all lessons. This paper will explore how computer-mediated facilitation using wireless technology can invigorate tabletop audiences, accurately capture lessons, and provide a less costly alternative than traditional tabletop exercises.

## Describing communication technology

Using technology to fill information needs is not a new concept. The concept of computer supported cooperative work (CSCW) has been used to describe the design, introduction, and use of groupware systems to bridge the dynamics and diversity of different organizations and groups within organizations (Rittenbruch, Kahler, & Cremers, 1998). More descriptive and to the point for this paper is the concept of Computer Mediated Communication (CMC). CMC is the name given to a large set of functions in which computers are used to support human communication (Santoro, 1995). Computer Mediated Communication (CMC) is distinguished by the nature of the human-computer interaction and by the role taken by the computer in mediating the human communication process. The application of CMC explored here is one in which the computer in a wireless network plays an active role as the repository and facilitator of organized information in a Tabletop Exercise. In our example, the computer/network system becomes a mediator rather than a processor of the information (Santoro, 1995).

## Emergency/Disaster Exercises

Most industrialized countries are required by legislation to conduct disaster exercises that include natural and technological threats (Peterson & Perry, 1999). Annual exercises ensure that “potential shortcomings in the plan and training process are identified” (Peterson & Perry, 1999, p. 243). Therefore, these exercises are seen as an

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important aspect in the process of emergency management. Five core benefits attributed to disaster exercises include:

1. Permitting “inferential testing of the adequacy of a disaster plan”;
2. Allowing inferential testing of the “adequacy of training of personnel”;
3. Enhancing the visibility of the agencies participating in the exercise with those in the community, and “similarly reassuring the public that emergency authorities are aware of dangers and prepared to take measures to reduce negative impacts”;
4. Providing a “hands-on” check of communication equipment, systems, and other materials; and
5. Testing the “viability of the emergency response network relative to the threat exercised” (Peterson & Perry, 1999, pp. 241-242).

Of the various exercises conducted by emergency managers for disaster planning, three of the most commonly used include: tabletop, functional, and full scale (Peterson & Perry, 1999). While functional, full scales and drills are considered operations based exercises, the tabletop exercise, the subject of this paper, is a discussion based exercise. These exercises involve simulated, hypothetical man-made or natural disasters in which the participants are asked to respond to the event’s demands (Moyer, 2005; Peterson & Perry, 1999). They are designed to “test and evaluate proposed plans and procedures and resolve questions of coordination and responsibility before implementation of a plan” (Watkins, 2000, p.167). While familiarizing the participants with the administration of response procedures, these exercises also provides insight for the need of cooperation, resources, and communication during a disaster or emergency situation (Watkins, 2000). Tabletop Exercises are particularly beneficial when trying to clarify roles and responsibilities among participating organizations and assess plans policies, and procedures.

Unlike a full-scale exercise, a tabletop exercise occurs in a meeting room and tends to be conducted in less than six hours (Moyer, 2005). Some of the advantages of these exercises include: “lower costs, faster planning, scheduling, and organization; and less vulnerability to the weather” (Moyer, 2005, p. 52). In addition, these exercises occur at an accelerated time rate allowing the participants to “work through much more of the event in a reasonable amount of time than would happen in a real incident” (Moyer, 2005, p. 57). These advantages add up to a low-stress environment that encourages honest discussion which leads to enhanced learning (Richter, et al., 2005). Historically one of the main disadvantages to tabletop exercises is that less people can participate than with a full-scale exercise. As we will explain later, using computer technology can help mitigate that disadvantage.

Overall, exercises aid and enhance the participants’ “perceptions of response network effectiveness”, which is primarily focused on collateral support (Peterson & Perry, 1999, p. 245). These networks between first responders are important because of the decisions, actions, and strategies that will “form the core of any response operation” (Richter, et al., 2005). Peterson and Perry’s study (1999) concluded that exercises have the capability to alter participant perceptions of not only response network effectiveness, but also teamwork, training and equipment adequacy, and job risk.

## **Facilitation**

In presenting the argument for computer-mediated facilitation, literature on facilitation and computer-mediated communication, in particular the framework of Zane Berge, is relevant. Berge (1995) classified facilitating activities under four categories: pedagogical, social,

managerial, and technical. Applying Berge to technology enhanced exercises, the pedagogical role would concern the facilitator's contribution of specialized knowledge and insights to the discussion, using questions and computer generated injects to encourage participant responses, and to focus discussion on critical concepts. The social role would include affirming and recognizing participant's inputs, providing opportunities for participating agencies to develop a sense of group cohesiveness, and aiding the organizations to work together for a better planning/response solution. The managerial role involves providing objectives, setting timetables, setting procedural rules and decision-making norms. The technical role concerns responsibility for ensuring participants' comfort and ease in using the network system/software.

### **Exercise Documentation - After Action Reporting**

Tabletop exercises have historically required less supporting documentation than functional or full scale exercises. However, that is changing. Particularly in the U.S., reporting requirements under the Homeland Security Exercise Evaluation Program, (HSEEP) have created a situation that requires After Action Reports or AAR's. These AAR's created for exercises must conform to the templates provided in HSEEP Volume III: Exercise Evaluation and Improvement Planning, providing a consistent reporting format nation wide, which allows for a systematic comparison between exercises, regardless of jurisdiction. Following each exercise, a draft AAR/IP must be developed based on information gathered through use of Exercise Evaluation Guides (EEGs). In addition, following every exercise, an After-Action Conference (AAC) must be conducted, in which key personnel and the exercise planning team are presented with findings and recommendations from the draft AAR. After this conference review corrective actions addressing a draft AAR recommendations are developed and assigned to responsible parties with due dates for completion. A final AAR with recommendations and corrective actions derived from discussion at the AAC must be completed within 60 days after the completion of each exercise.

### **T.E.S.T. – A Breakthrough in Disaster Readiness Training**

While traditional tabletop exercises can be effective, they can also be limited by their one-size-fits-all approach, the skill of the facilitator, and inefficient capturing of information for later use. Tabletop Exercise System Technology (T.E.S.T.) addresses those limitations and provides new advantages for both the designer and user.

T.E.S.T. is a first-of-its-kind, computer-based, tabletop exercise system that simplifies the development, delivery, and after-action reporting of training exercises. With this program, just one facilitator can accommodate large audiences of over 100 participants. In fact, the number of users is limited only by the availability of computers. Thus far, T.E.S.T. has been used to train and exercise over 800 agencies and over 4000 federal, state and local governmental officials to respond to such disasters as avian flu, bioterrorism attacks, hurricanes and food-borne contamination.

T.E.S.T. is specially designed to:

- Apply to a wide range of situations and clients
- Facilitate large audiences
- Quickly modify scenarios during training
- Energize audiences and keep their attention
- Involve more participants in discussion
- Standardize quality delivery
- Reduce facilitator workload

- Allow easy development of new training exercises
- Capture lessons and provide immediate reports to participants on site

It guides users through a specific disaster scenario that includes simulated news reports, e-mails, video, and other appropriate documents to drive their actions. Then participants are asked leading questions based on the information provided and allows participants to respond. These responses are then recorded in a database to be briefed to other participants and consolidated into an immediately available written transcript or report.

The design of T.E.S.T. allows individuals in a group to use a single computer. This enables group members to brainstorm and input their answers into the system without the need for a group facilitator. In addition, T.E.S.T. also makes it extremely easy for administrators to design their own exercise. With only a basic understanding of computers, exercise developers can quickly design a tabletop that is interactive and engaging.

## Conclusion

Exercises allow homeland security and emergency management personnel, from first responders to senior officials, to train and practice prevention, protection, response, and recovery capabilities in a realistic but risk-free environment. Exercises are also a valuable tool for assessing and improving performance, while demonstrating community resolve to prepare for major incidents. Using a computer based delivery system can significantly reduce both the human and real costs of designing, developing, and facilitating information dissemination.

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Audrey Heffron-Casserleigh currently serves as the Deputy Director at the Center for Disaster Risk Policy and the Florida Public Affairs Center at Florida State University, where she is a recognized expert in the fields of terrorism, emergency management, disaster health planning. Formerly with FEMA, Audrey now works extensively on innovative solutions for government and appears consistently in the press including MSNBC, CBS news, and in the AP. Audrey has served on several national and international boards and is currently a Senior Board Member for The International Emergency Management Society. Audrey also serves as the terrorism professor for the Emergency Management program at the Askew School of Public Administration and Policy at FSU.

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