



# Test and Evaluation Technical Group

The Test and Evaluation Technical Group (TETG) is focused on all aspects of human factors/ergonomics (HF/E) testing and evaluation. Toward this end, it provides a forum for exchanging ideas about the science of measurement and about the ever-evolving application of measurement when conducting tests, making assessments, and performing evaluations. Its members are broadly interested in the development, reliability, and validity of emerging testing and evaluation methods and metrics, and they are concerned about selection of the most appropriate methods and metrics for use in particular situations.

## TECHNICAL FOCUS

T&E methods and metrics are not one size fits all applications. Depending on the situation, they may need to be formative or summative, analytical or empirical, quantitative or qualitative. They can be used to assess myriad dimensions of performance using traditional metrics such as speed and accuracy, or more recently developed metrics related to cognitive workload or situational awareness. They can be used to evaluate processes and/or outcomes.

Methods and metrics used in testing and evaluation have co-evolved with technology and new critical human factors issues have emerged. These in turn have impacted approaches for assessing: human performance and human-system performance. At the same time, classical factors that influence that performance continue to remain a primary focus. In today's world, testing and evaluation activities play an important role during product/system Research, Development, Test, and Evaluation.

## WORK ENVIRONMENTS

Test and evaluation (T&E) specialists work in a variety of environments. Some are engaged in controlled, inferential studies in laboratories to assess the effects of various variables on human performance. Others work with prototypes and simulations to evaluate designs and/or to influence design decisions early in the product/system lifecycle. Still others conduct tests and evaluations to ensure that design criteria and requirement are met.

Many test and evaluation specialists work to ensure product and software usability. Others work for large organizations involved in designing and developing complex systems such as those related to nuclear power or to transportation. Still others are associated with government agencies such as the Operational Test and Evaluation Agency run by the U.S. Army, whose task is to evaluate the adequacy of new Army hardware and software or the Federal Aviation Administration who strives to ensure safe travel through increasingly congested airspace.

## MEMBERSHIP

The TETG consists of about 250 individuals who work for governments, industry, branches of the military, universities and colleges, and consulting firms. The TETG seeks to foster the exchange of information and ideas among members and to promote the development and application of human factors data and methods to test and evaluation activities. The TETG provides a forum for test and evaluation practitioners and developers from all areas of human factors to discuss and exchange methodologies and techniques that have been developed or used successfully in their respective areas. Most TETG members are also members of the Human Factors and Ergonomics Society.

## BENEFITS OF MEMBERSHIP

The Test and Evaluation Technical Group, like other technical groups within the Human Factors and Ergonomics Society, performs a variety of functions and services for its members. In addition to sponsoring technical sessions at the Annual Meeting of the Human Factors and Ergonomics Society, the TETG conducts specialty symposia on topics of special interest to members. A newsletter is sent to all members about four times each year. Additional information on the TETG is available on the HFES Web site <http://hfes.org>. It is not necessary to be an HFES member in order to join the Test and Evaluation Technical Group.

## ADDITIONAL READING

Readers who would like to learn more about how the test and evaluation specialist functions should consult the following references:

- Charlton, S.G. & O'Brien, T.G. (2001). *Handbook of Human Factors Testing and Evaluation, Second Edition.*: Lawrence Erlbaum Associates, Inc. Mahwah, NJ.
- Meister, D. (2004). *Conceptual foundations of human factors measurement.* Mahwah, NJ: Lawrence
- Nemeth, C. P. (2004). *Human factors methods for design: Making systems human-centered.* Boca Raton, FL: CRC Press.