

THE FUTURE OF MAINTENANCE TRAINING

*Virtual Training
& 3D Simulation Journal*

04. MARKET ANALYSIS

A review of the state of the simulation and training sector

By Nick de Larrinaga

07. THE ROI OF 3D SIMULATION

How Ft. Leonard Wood transformed training and its bottom line

By Cecil Caldwell

13. MEASURING MAINTENANCE PERFORMANCE

ACF Associates measures effective training

16. ADVANCED VIRTUAL MAINTENANCE TRAINER

An integrated interactive training platform

19. QUESTIONS FOR THE RECORD

The NTSA testifies before the US House Armed Services Readiness Subcommittee

MEASURING MAINTENANCE PERFORMANCE

From classroom to theater

By Andrea Crossland and Andy Fitzgerald

Performance measurement is of critical importance to any maintenance organization. With significant investments in facilities, equipment, technology, machinery, and tools, the tracking of maintenance performance has been identified in literature, as being a key management issue. Since the early 1990's, performance measurement systems have been introduced to allow management to align the work being done with strategic goals to obtain objective, credible, and authoritative data as to the organization's maintenance effectiveness and efficiency. This objective data can also be used as an indicator of performance and can lead to effective decision making and strategic course correction or redirection when required.

Organizations that have not yet adopted objective measures of performance face challenges of not only understanding their performance but also understanding the effectiveness of the training that is intended to enable performance. Within this article, we will briefly discuss three compelling reasons why maintenance performance, and in specific, technician performance, needs to be better measured and understood from the initial classroom and training context to the operational environment.

TRAINING EFFECTIVENESS

Traditionally, the litmus test for effective training has been whether the students score well on their classroom theoretical and practical assignments and tests and student course critiques. If students are successful on these in-class forms of assessment and the instructors obtain positive student feedback, then the training has been considered to be effective and meeting the standards. Because measuring training effectiveness typically is limited to the classroom experience, it is a challenge to assess how improvements to training impact operational performance and operational availability. Should unnecessary

aircraft or equipment downtime occur during the course of a maintenance procedure, how is that downtime being attributed and can links be made to the amount, type, and quality of training received? As we look ahead, there is a growing need to better understand and measure technician performance so that technician training can be more accurately informed.

EVOLUTION TO IN-SERVICE SUPPORT CONTRACTS

The requirement for objective measures of technician performance will also be important as we move to In-Service Support Contracts that sees contractors assume an increasing role in weapons system management. These contracts intend to hold contractors accountable for aircraft or equipment unavailability and will require the military to have a method of measuring first-line maintenance and technician performance in order to accurately attribute responsibility for downtime. In addition, with the increasing role and cost associated with Contractor-developed training programs, there will be a need to define, for contractor accountability purposes, an acceptable operational performance level which can only be articulated if it can be captured and measured. This information can also be used to establish the effectiveness of contractor-developed training.

ROI ON PERFORMANCE AND TRAINING AIDS

Finally, over the last several years, the military has invested in training advancements with the inclusion of technical training and performance aids. To understand the Return of Investment of these aids in both the training and operational contexts, there is a growing need to have a mechanism by which baseline measures of performance can be collected for

comparison purposes. These measures could provide the Air Force with credible data as to the performance and training benefits of the technology and provide the necessary justification for continued investment. Likewise, contractors, or service providers, will need to be prepared to demonstrate not only how their products improve training, or fill a training need, but also influence job performance. This demonstration may be possible through the use of performance measures.

The value of using performance measurement principles to capture performance data in an operational context has been extensively discussed in literature. But can these same principles be applied to the training context? Yes. And it will be expected as it becomes increasingly more important for organizations, to have a mechanism, or system, in place by which to:

- objectively inform or assess training effectiveness as it directly relates to job performance, accurately manage in-service support contracts and contractor obligations; and
- establish Return of Investment for advanced technical performance and training aids.

As training effectiveness evolves to include greater links and causality to job performance, organizations will have to evolve with this trend.

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