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The value of metrics: You can't train what you can't measure

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Performance measurement is an essential tool for achieving the fit between organizations, people and technology, allowing us to evaluate that fit and to diagnose where improvements are needed. From performance measurement you can develop performance models that link detailed measures of performance to desired outcomes. Combining performance measures and models can answer questions such as: Is the design of equipment appropriate for the people who will use it?

Measures help to determine who should be selected based on knowledge, skills and abilities to meet job requirements and can evaluate whether training improves knowledge, skills, and mission outcomes.

But why does measurement make training more effective? Because people learn faster and better if they get feedback on their performance.

Making training more effective means you get a higher return on investment for your training program. But in order to give useful feedback, you have to measure - and you have to measure the right things. Once you know what to measure, you have to know how to get the data. And once you have the data, you have to know what to do with it. In other words, you can't train what you can't measure.

Knowing what to measure is the first step of the process. One method is to develop measures based on competencies. Competencies are systematic descriptions of what constitutes good performance in a particular job, and the knowledge and skills needed for that job. These competencies are developed by working with subject matter experts in the field in which you are training. Experts can provide a series of observable performance indicators, indicating whether an individual or a team is at a low level of readiness and needs more experience and instruction.

You can also develop measures based on models of performance. For example, in government and industry there is an increasing use of mathematical models of teams and organizations to provide insight into what aspects of performance are most critical for mission success. For example, a "social network" model was used to locate and capture former Iraq president Saddam Hussein by tracking the connections among his supporters.

Measures can also be based on the science of team theory. Theory-based measures use prior research to provide insights into the key aspects of performance that should be measured.

In simulation-based environments, there are typically many things that can be measured. Identifying

those behaviors and those points in a scenario where measurement will yield the most valuable diagnostic results provides an understanding of what should be measured.

Not all behaviors that can be observed in the real world can be seen in a simulation environment. In parallel to identifying the promising areas for measurement, an examination must be made of the simulation environment to determine what can be measured in that environment. The combination of what should be measured based on the desired competencies and what can be measured in the simulation environment provides the basis for generating an initial set of performance measures.

Once you know what to measure, you have to know how to collect the data. You can watch people (observation), you can listen (communications analysis), and you can get data by using a training simulation that reports on trainee performance. But the best approach is usually to combine these three.

Finally, once you have the data, you have to know what to do with it. Using the data to provide focused feedback to trainees has been shown to make training more effective.

Identifying the areas of training that can be measured, gather the data from those measurements, and applying it as feedback to the trainees will give your company greatly improved results from any training program.

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