

PROBE Performance Analysis

Thomas Gilbert was an early pioneer in performance consulting and instructional design. His book *Human Competence* is seminal in the Human Performance e Technology field. Robert Mager's Performance analysis and other methods have their foundations in Gilbert's work.

Gilbert's core premise, and the premise of all approaches to performance analysis is that performance and behaviour at work is influenced by both the immediate environment people work in combined with attributes of the individual. His model defining the key factors contributing to performance was called the Behaviour Engineering Model (BEM).

He developed a series of questions (PROBE) related to each box of the BEM model. The model and PROBE questions are provided below.

The Behavior Engineering Model

	Information	Instrumentation	Motivation
Environment	<p><i>Data</i></p> <ol style="list-style-type: none"> 1. Relevant and frequent feedback about the adequacy of performance 2. Descriptions of what is expected of performance 3. Clear and relevant guides to adequate performance 	<p><i>Resources</i></p> <ol style="list-style-type: none"> 1. Tools, resources, time and materials of work designed to match performance needs 	<p><i>Incentives</i></p> <ol style="list-style-type: none"> 1. Adequate financial incentives made contingent upon performance 2. Non-monetary incentives made available 3. Career-development opportunities 4. Clear consequences for poor performance
Individual	<p><i>Knowledge</i></p> <ol style="list-style-type: none"> 1. Systematically designed training that matches the requirements of exemplary performance 2. Placement 	<p><i>Capacity</i></p> <ol style="list-style-type: none"> 1. Flexible scheduling of performance to match peak capacity 2. Prosthesis or visual aids 3. Physical shaping 4. Adaptation 5. Selection 	<p><i>Motives</i></p> <ol style="list-style-type: none"> 1. Assessment of people's motives to work 2. Recruitment of people to match the realities of situation

Reference: Dr. Thomas F. Gilbert, "Human Competence: Engineering Worthy Performance," 1978, 1996

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WORK ENVIRONMENT

1. Information

A. Directional Data

1. Are there sufficient readily accessible data (or signals) to direct an experienced person to perform well?
2. Are they accurate?
3. Are they free of confusion that slows performance and invites error?
4. Are directions free of “data glut” – stripped down to the simplest form and not buried in extraneous data?
5. Are they up to date and timely?
6. Are good models of behavior available?
7. Are clear and measurable performance standards communicated so that people know how to perform?
8. Do people accept the standards as reasonable?

B. Feedback

1. Is feedback provided that is “work related” – describing results consistent with standards and not just behavior?
2. Is it immediate and frequent enough to help employees remember what they did?
3. Is it selective and specific – limited to a few matters of importance and free of “data glut” and vague generalities?
4. Is it educational – positive and constructively informative so that people learn something from it?

2. Instrumentation

A. Tools & Equipment

1. Are the necessary tools on hand for doing the job?
2. Are they reliable and effective?

B. Procedures

1. Are processes and procedures efficient and designed to avoid unnecessary steps and wasted effort?
2. Are they based on sound methods rather than historical “happenstance”?
3. Are they appropriate to the job and the skill level?
4. Are they free of boring and tiresome repetition?

C. Resources

1. Are adequate materials, supplies, assistance, etc. usually available to do the job well?
2. Are they efficiently tailored to the job?
3. Do ambient conditions provide comfort and prevent unnecessary interference?

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3. Motivation

A. Incentives

1. Is the pay for the job competitive?
2. Are there sufficient bonuses or raises based on good performance?
3. Does good performance have any relationship to career advancement?
4. Are there meaningful non-pay incentives, e.g. recognition, for good performance based on results not behavior?
5. Are incentives scheduled well or so frequently as to lose meaning and so infrequently as to be useless?
6. Is there an absence of punishment/consequences for performing poorly?
7. Is there an absence of incentives to perform well?
8. Is the balance of positive and negative incentives in favor of good performance?

INDIVIDUAL

4. Motives

1. Do users seem to have the desire to perform when they enter the job?
2. Do their motives endure, e.g. is the turnover low?

5. Capacity

1. Do users have the basic capacity to discriminate among the choices with accuracy and speed?
2. Are they free of emotional limitations that would interfere with performance?
3. Do they have sufficient strength and dexterity to learn to do the job well?

6. Knowledge and Training

1. Do people understand the consequences of both good and poor performance?
2. Do they grasp the essentials of performance, e.g. the "big picture"?
3. Do they have the technical concepts to perform well?
4. Do they have sufficient basic skills, e.g. reading, math, computer, etc.?
5. Do they have sufficient specialized skills?
6. Do they have the skill after initial training?
7. Are good job aids available?