Training Needs Assessment

Techniques in Training and Performance Development Series

Training Needs Assessment

Rossett

EDUCATIONAL T

Chapter One: THE TRAINER'S CHALLENGE

Introduction

This is a book for people who are in the business of affecting human performance. These professionals are called trainers, performance technologists, instructional designers, education specialists, training managers, course developers, industrial relations managers, curriculum planners, documentation specialists and instructional technologists.

The book focuses on **one** topic: **training needs assessment, or TNA.** TNA is the umbrella phrase I've coined to encompass activities like analysis, front end analysis, needs assessment, needs analysis, discrepancy analysis, etc. **TNA is the systematic study of a problem or innovation, incorporating data and opinions from varied sources, in order to make effective decisions or recommendations about what should happen next.** Sometimes that recommendation involves training; sometimes not.

While most professionals would agree that they ought to do front end study, there is little agreement on how to do it. Where do you start? What do you say or write or observe? In what order should the study occur? When are you finished? What do you do with what you've learned? The purpose of this book is to describe the way I answer these questions.

The book has three broad goals:

1. to **conceptualize** what we do **before** we train people or recommend non-training solutions;
2. to introduce and use the concepts of **purpose-based TNA** and **stages of assessment** in light of three kinds of challenges;
3. to describe and exemplify specific **steps, tools and techniques** for carrying out TNA.

To achieve these goals, the book is divided into four major parts:

Part One: INTRODUCTION

Part Two: TNA TECHNIQUES

Part Three: TNA TOOLS

Part Four: CONCLUSION

In **Part One**, the reader is provided with a very brief review of a systematic approach to training, and to the focal point of the book: TRAINING NEEDS ASSESSMENT (TNA), an umbrella term for what we do to understand performance problems and introduce new systems and technologies. The chapters in Part One introduce TNA as purpose-based assessment.

Three powerful **analysis techniques** are presented in **Part Two**. Extant data analysis, needs assessment and subject matter analysis are described, highlighting their uses in acquiring certain kinds of information about problems and systems.

Part Three presents and clarifies the steps involved in using TNA tools: interviews, observations, group meetings and surveys to gather TNA information. These TNA **tools** are described in detail with examples which illustrate their uses.

The conclusion of this book responds to the person who says, "OK, I now know about the purposes for front end analysis. I am more familiar with a range of analysis techniques and with tools like interviews and surveys. How do I put it all together? What do I do first? next? And when am I finished?" **Part Four** is about planning TNA and then about disseminating the results of your TNA efforts.

The Challenges

What are the kinds of challenges that come across the desk of training professionals? **Just as the nature of the "request for training assistance" or the plea for "HELP!" affects the kind of solution(s) the trainer proposes, it also affects the TNA that should be done.**

Let's look at some typical situations:

• Last year the Speedy corporation spent almost $500,000 on a new shortage control program. However this year's shortage figures are unimproved by this innovation. While theft is a reality of the convenience store business, diligent franchise owners, dutifully implementing the shortage control program, should improve the bottom line. The corporation charges the Training Department: "Teach them this shortage program AGAIN. And get them to use it so we can all benefit from the results."

• Ponce de Leon Inc. manufactures computerized home and hospital life support systems. Acknowledged by the health industry as highly effective but difficult to use and maintain, the continued life of this corporation is threatened. The Technical Support Division is charged with rapidly changing the industry's perception of the Ponce de Leon systems by developing print materials that will make them easier for people to use and maintain.

• Solid Gold, a midwestern bank which was started by former MOTOWN executives, aggressively takes advantage of new regulations in the financial services industry and develops new investment and savings programs for customers. Management wants to be certain that tellers are fully informed about the new financial packages available to customers. The Marketing Vice President leans on the Vice President for Human Resource Development for assistance in developing a solution. The financial products will be available in just over a month. "Everybody has to be up to speed on this."

• Metropolitan Hospital is administered by a group that believes in customer service. Every spring, no matter what, the newest member of the training staff is given the task of setting up and offering telephone training workshops, and every staff member with responsibility for answering phones is expected to attend.

• The telephone company develops a new computer-based technology for diagnosis of residential phone problems from remote locations, without ever leaving the office. This innovation means that thousands of employees will need re-training. What courses? What content? Delivered through what systems? Who gets trained first? Next? Next?

• The company is suffering declining sales. In a competitive business atmosphere, but one full of opportunity for the sale of personal croissant baking machines, Le Perfect Taste is getting beaten for shelf space by a rival machine. Upper management decides to hire an instructional technology consultant to work on this problem. They know they want a sales training package but are willing to consider other options too.

• Palmer Inc., the second largest producer of undergarments in the USA, has nine factories in the north and southeast. The CEO at Palmer likes to bring management from all nine factories to headquarters in Augusta, GA. at least twice a year for management development seminars. This CEO is a believer in training and development, and he makes it clear that he wants his upper level managers to "get a lot" while they are at headquarters.

Are these situations familiar to you? Are they the kind of circumstances that might launch you on a project?

At first glance, they appear to be just like each other. But they're not. When you look at them carefully, they are different from each other. What's important is that they reflect the range of challenges that training professionals confront.

There are **three kinds of initiators** of TNA:

1. Performance Problems: These are the most familiar circumstances which involve training professionals and launch TNA. You can recognize performance problems because managers say things like, "What's going on here? They used to be proficient with the equipment," or "We taught them how to use the shortage program. Now why don't we see results?" or "We believe in Le Perfect Taste as a product. So why aren't our sales people getting us that shelf space?" "Why are we having so many requests for repair of our products?" Performance problems happen in the midst of *ongoing* efforts in situations when employees ought to know how.

2. New Systems and Technologies: While it varies with the setting and industry, the introduction of new systems and technologies is capturing a greater share of the time of the trainer or instructional technologist. Here are the words that professionals will hear under these circumstances: "Teach our people to use the new system!" or "We know our equipment is highly technical. We also know it's good. The problem is helping people to get

comfortable with it. We need documentation for the Ponce de Leon models which is as strong as the equipment"; or "The course for service order takers has to show them how remote sensing of telephone problems is going to improve the situation for everybody"; or "Our tellers need to know enough about these financial products to introduce appropriate customers to them. Can you make that happen?"

3. Automatic or Habitual Training: In some cases training happens because it has *always* happened, because the *law* mandates for it to happen or because it *looks good* for it to happen. This situation is represented above in the annual telephone workshop at the Metropolitan Hospital and the bi-annual management development experiences for the Palmer Corporation. There is no *particular* problem here and no new system of technology for which employees must be trained.

These broad initiators of action usually appear in mundane and varied formats:

• printouts which present bad news
• complex technology which demands user support
• changing regulations which alter products and services
• hiring, promotion and turnover trends
• not enough sales, or occasionally too many
• regulatory action
• shareholders who demand better return-on-investment
• management hunches, concerns, priorities and intuition . . .

These are the challenges. Now we turn to solutions.

The Solution

One solution most often requested by management is to "train'em" and "teach'em" so that "the problem will go away and fast" or the "costly new system will get the use it deserves." The prudent training professional is going to have to look carefully at the problem or system before he or she commits resources to training as the answer to the problem. That look, that careful examination, is called training needs assessment (TNA); it's what this book is about.

Before we focus on TNA, let's talk about systematic training, in general. We'll review the broad steps a trainer carries out, and the place that TNA has in that process.

Systematic approaches to training or instructional systems development (ISD) was developed during World War II to address the pressing and technical needs of the military for trained personnel. Intuitive, random and varied ways of teaching soldiers to fly, march, maintain equipment, lead others and generate battle strategies were undependable. ISD provided a broad prescription for looking at the men and women and their work and figuring out ways to teach them to do it.

Robert Gagne's name is associated with the early days of ISD, as it is with so many major contributors to this field. He and his colleagues at Florida State University, most notably Leslie Briggs, Robert Morgan and Robert Branson, developed and popularized the big box model which eventually turned into the Interservice Procedures for Instructional Systems Development (IPISD). Mandated by the military and adapted to meet the needs of large corporations like AT&T, this systematic approach in its dozens of iterations is the basis for much of what goes on in training and development today.

Briefly, let's look at the big boxes and what they mean. (See Figure 1.1.) This book concentrates on the first box, on providing a new conceptualization for the techniques and tools inherent in analysis. Yet as we focus on the first box, on analysis, we need to understand how the outputs, the information gathered during this stage of effort, relates to everything else that is accomplished in training and development. That's what makes this a "system." What we do and find out in each phase has a direct and predictable bearing on the next box or phase of the effort.

ANALYSIS OR ASSESSMENT (A)

The challenge is to find the problem, to understand it sufficiently so that it can be solved. Why aren't salespeople getting Le Perfect Taste more shelf space? What could Palmer managers do better? What do tellers know and not know about these accounts? about selling financial packages? What kinds of documentation will enhance Ponce de Leon systems? Is it the store owners and operators or is it the quality of the shortage control program? What is going on and why is or isn't it happening?

DESIGN (D)

If the problem is one which can be solved through training or job aids, then trainers or instructional designers will establish clear and useful training
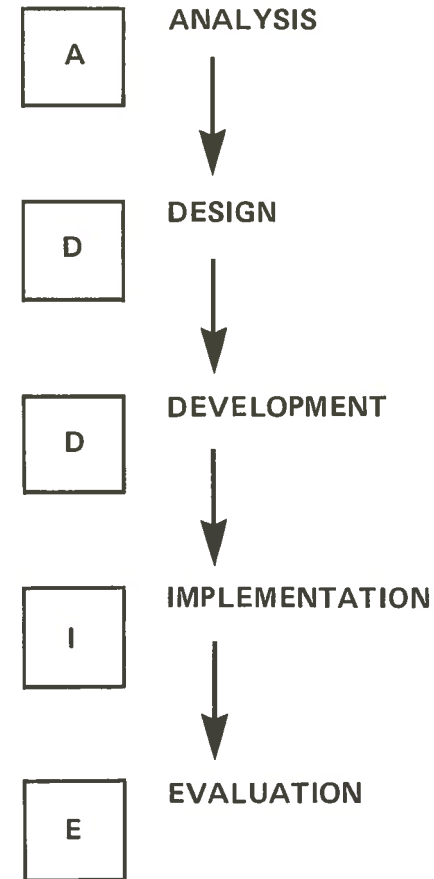

Figure 1.1

intentions in this phase. Just exactly what behavior and knowledge will the trainees possess? What accomplishments will we expect? Once training goals and objectives are established, decisions are made about appropriate strategies and technologies. In this phase, Ponce de Leon Inc. health equipment would have to decide on the specific and different expectations for family members vs. medical personnel and on how to achieve these different objectives. They would also consider the different demands of using the equipment in a hospital vs. at home.

DEVELOPMENT (D)

Working from goals and objectives, training strategies are planned and developed. The work of Dave Merrill, Barbara Martin and Leslie Briggs, Robert Gagne, and Sue Markle enlightens this phase as we use their research and ideas to make decisions about how to achieve given objectives. In development we write courseware, make videotapes and plan and execute the details of courses. There are tangible learning products developed in this stage.

IMPLEMENTATION (I)

This is where we try out the training solutions that have been developed. Palmer Industries holds a motivational seminar led by Norman Vincent Peale. Ponce de Leon tries out a series of workshops and job aids in hospitals. Solid Gold puts on seminars for tellers and pairs these seminars with a major sales incentive program.

EVALUATION (E)

Did the interventions work? Is there anything that needs changing? Should the training product or system be used again? Are hospital employees operating the equipment? Are the managers more motivated, if that was the problem? Is Le Perfect Taste getting more shelf space? Are financial packages getting sold? In evaluation, trainers are concerned whether the problem has been solved, whether the reason for doing all this has gone away. Evaluators seek data to judge the worth of the training effort. In a goal based evaluation, judgments will be only as effective as the quality of the goals. That takes us back to the first box, TRAINING NEEDS ASSESSMENT OR ANALYSIS, since that's where goals were derived. (See Figure 1.2.)

Training Needs Assessment (TNA)

When management presses for a video program to show how to lock up a store or a remote sensing course to detect telephone breaks or a home study course to deter turnover, trainers need to talk about UNDERSTANDING PROBLEMS or CONTEXTS FOR

What happens during ISD???

ANALYSIS:	People who know about the subject and who care about training and development ask questions like: • who will our students be and what do they already know? want? • why do we want them to know this? • what within this topic is it most essential that they know? how will we decide? • what might/will they do with this information? are there any problems at work that have been caused by not knowing? • what is the cause(s) of the problem? will a course or training help?
DESIGN:	In this phase of ISD, trainers and educators get very specific about the goals and objectives of the course, unit or program. What skills *exactly* would they have? What kinds of goals and objectives are we talking about? What are the options and constraints under which we will be planning?
DEVELOPMENT:	During this phase decisions are made about HOW to do this. Using earlier stage data, educators select methods, technologies, sequence, materials, practices, etc.
TRY-OUT:	This is where you do it: offer the course or send out the program.
EVALUATION:	Did it work? Are the students able to achieve course objectives? Will it affect their work?

Figure 1.2

NEW SYSTEMS BEFORE ENACTING SOLUTIONS. What we all must do is make professional, convincing cases for ANALYSIS PRIOR TO PARTICULAR SOLUTIONS. This book will show how to make that case and carry out that analysis.

The effort to understand performance problems goes by many names:

Training Needs Assessment (TNA)

Training Needs Analysis

Pre-Training Analysis

Front End Analysis

Analysis

Trainers need access to more detailed and sturdy prescriptions for understanding performance problems. The worthy trainer or performance technologist or education specialist wants to do a front end analysis. What questions does he or she ask? What data is sought? What critical incidents are gathered? What sources are consulted? How is subject matter selected? ignored? In what order are those noble analyses conducted? May any be omitted? How do you know when you're finished and can report your results or start to develop training? Those are the questions that this book, *Training Needs Assessment*, answers.

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Part One: INTRODUCTION

Chapter Two: TRAINING NEEDS ASSESSMENT

Introduction

Training needs assessment (TNA) is an umbrella term for the analysis activities trainers use to examine and understand performance problems or new technologies. You've heard it called problem analysis, pre-training analysis, figuring things out, needs assessment and front end analysis. What you call it doesn't matter. What matters is whether you get the information you need to effectively solve problems in the corporation or agency. That detailed information, from the perspective of the various sources or stakeholders, is the **purpose for TNA**.

Purpose-based TNA

Purpose-based TNA is the central concept in this book. The things we must know before we train or report are the **purposes of our TNA study**. We are referring to the information we need to make informed decisions and recommendations.

There are a finite number of specific **reasons or purposes** why we do TNA. **Once these purposes are fulfilled**, the training professional moves on beyond TNA into the latter stages of instructional systems development described in Chapter One.

Purpose-based TNA tracks front end activities for you. These questions demonstrate how it works:

1. Why am I conducting analysis on this problem? What are **all** the possible purposes for my inquiry?

2. What do I *now* know about which I am confident? which I can support with data? which represent opinions and hard data from many sources?

3. What remains to be discovered? What *purposes are unfulfilled?*

This brings us to the **purposes of TNA**. What are they? **Our purposes are to seek information we seek about . . .**

- **optimal** *performance or knowledge*

- **actual** *or current performance or knowledge*

- **feelings** *of trainees and significant others*

- **causes** *of the problem from many perspectives*

- **solutions** *to the problem from many perspectives*

My reading of the literature and my experience with analysis suggest that these are the only *substantive kinds of information* we must have. **For each initiating situation that we confront, we must examine where we are in the quest for information about EACH of these purposes. Let's look at TNA in light of these purposes.**

SEEKING OPTIMALS: visions of desired knowledge or performance. It might be proper procedures for installing a phone, explaining a croissant maker or foreclosing on a house. It might be the principles involved in selecting a computer system for a small business or in designing office stations. The emphasis is on the knowledge, skills and attitudes which trainees must have to get the job done well.

SEEKING ACTUALS: the way it is, what people know and do. What are phone installers currently doing? How are foreclosures transpiring? What do salespeople say when they explain the croissant maker or assist clients in selection of computer systems? We can only talk about problems when we know there is a difference between what ought to be occuring (optimals) and what is occuring (actuals). The gap between optimal and actual is called a discrepancy or need. Roger Kaufman (1979, 1982) has emphasized the importance of identifying discrepancies, prior to launching any solutions.

Purpose-based TNA includes a familiar subtraction (next page):

[handwritten margin notes: "I am taking a needs assessment approach. I can craft my study as they're at basic — How to get them to advanced"]

OPTIMAL - ACTUAL

PERFORMANCE DISCREPANCIES (NEEDS)

The trainer or course developer's job is to erase or diminish performance discrepancies (needs). This can't happen until the **details** of the performance discrepancy are known. That necessitates a search for information about optimals and actuals. Then the information about optimals and actuals is plugged into the subtraction presented above, yielding the **nature of the problem . . . in detail.**

Information about the nature of the problem isn't enough. Other purposes must also be satisfied.

SEEKING FEELINGS: opinions about the problem or task or competence related to it. Trainees, supervisors and significant others will have feelings about a performance problem or a new technology. A stickier challenge within TNA is to find out what those feelings are. Consider sales people who are not placing as many croissant machines as headquarters anticipates. Perhaps the sales staff has doubts about the product or its strength compared to its competitors. Or consider the introduction of a new and expensive computer system. Do employees like the one that has been chosen? Do they feel confident that they will be able to learn to use it? Do they have prerequisite keyboarding skills? You don't really understand the problem until you have unearthed the surrounding feelings.

SEEKING CAUSE(S): why is there a problem? What's causing it? There is usually some reason people do things, and some reason they don't. When you seek cause or causes, you attempt to find out what various sources think is contributing to the problem. Do not expect unanimity on the topic. Trainees may think there are environmental causes of a problem, like computers which *go down* or improper forms. Supervisors may think trainees don't know how. And other employees may wonder if there are any incentives for doing it and doing it right. The four possible causes of performance problems are discussed in detail in Chapter Four. The quest for the causes of the problem is central to TNA.

SEEKING SOLUTIONS: ways of ending or diminishing the problem. It is hard to resist thinking about what to do to end or diminish the problem. Many training professionals found their ways into this field because of an interest in teaching classes or producing video or writing educational software. It is natural and democratic to want to ask sources how **they** think the problem might be solved. If you think their answers will shed light on the **cause(s)** of the problem (e.g., *"Just re-write that form and those performance appraisals will improve."*) then ask. And if there is some chance that their preferences will be considered in selecting the training mode, include them. In most cases, however, trainees have very little to say about whether and how training transpires. In most situations, decisions about the nature of the solution will be based on management preference. Ideally, that management preference will be enlightened by what training professionals have found out about the *cause*(s) of the problem.

Using Purposes to Think About TNA

Initiating Challenges   *[handwritten: moving teachers from basic to advanced]*

Three kinds of initiating situations were described in Chapter One: the need to solve performance problems; the introduction of a new technology, product, policy or system; and habitual or automatic training. Those situations affect TNA because they influence the kind of purposes which must be fulfilled.

Purposes and Challenges

Purposes	Challenges		
	Problems	New Systems	Automatic
• **OPTIMALS**	X	X	X
• **ACTUALS**	X		
• **FEELINGS**	X	X	X
• **CAUSE(S)**	X		
• **SOLUTIONS**	X	X	

This approach is based on some assumptions about the relationship between challenges and purposes. I've assumed, for example,

that TNAs undertaken for performance problems will necessitate the search for information relating to all purposes. I am also assuming that a **new** system is very new. In reality, there may well be information about actuals which must be collected. And finally, I am assuming that habitual training situations are based more on upper management whimsy or legislative fiat, rather than any particular, identifiable problem in employee performance. If habitual training matches a nagging problem in the corporation, I'd treat it as a performance problem, emphasizing the search for cause and actuals.

Use purposes to think about TNA:

1. Examine the initiating situation to determine if it is a performance problem, new system or habitual demand for training.

2. Identify purposes associated with that kind of training challenge. For example, if you are charged with teaching bank employees at SOLID GOLD about *new* financial products, then you know you will be seeking detailed information about optimals, feelings and preferred solutions. Another example is the Speedy Corporation and its problems with shortage control. Since they have spent a year in training employees on the new system, and some are *getting* portions of it, and the results are nowhere near what they anticipated, the training group confronts a classic performance problem in an ongoing system. They will need information in regards to all purposes, with an emphasis on **why** there is a problem with the shortage system implementation.

3. Track your progress based on fulfillment of these purposes. Don't seek information that you already possess. Do you now know enough about the financial products to create job aids for employees? Are you certain about employee feelings surrounding these products? surrounding the role of sales person? Chapter Twelve presents forms, models, examples and practices which demonstrate how to use purposes to move through TNA to gather the information you need.

What You Have and What You Need

Optimals

If you have only the optimals, the noble *oughts* in the situation, you are only part of the way there. You lack the touchstone of

reality, of what is actually going on. Consider the manager who says, "They just don't understand our shortage control system. Teach them about it so they will know how to open, close, conduct surveillance, apprehend and monitor. We'll look at these documents and even more clearly spell out what they should be doing." That's a pretty good start on optimals, right? This instructional designer, however, lacks information about actuals. That means there is insufficient **detail** regarding the nature of the problem (optimals minus actuals).

Actuals

Instructional designers are more frequently flooded with data on actuals. You might be handed printouts which detail the bad loans being made by the loan documents. You will be subjected to descriptions of how loan documents have been going wrong. But management will resist clarifying or altering lending policies or philosophy. It just wants **better** loans, fewer uncollectibles which lead to costly legal procedures. Data on loan problems abound, but management doesn't much want to get into a precise discussion of optimal lending judgment. In a real situation I once heard it described as "sort of something like undefinable good sense." Once again, the designer can't move forward on a detailed definition of the problem because one portion of the subtraction is missing: clarity about optimals related to loan judgment.

Feelings

A worthy legacy of John Dewey (1933) and the student-oriented 1960s is appropriate concern about the feelings of potential trainees. It is often overdone or underdone. I've seen needs assessments which fulfilled no other purpose than to determine how secretaries felt about the new telephone system or how teachers felt about computers. I've also seen full scale front end analyses which never bothered to find out how much employees value the introduction of a new system or technology and whether or not they feel competent to learn to handle it.

Cause

Some front end studies will dwell on cause and avoid other issues. While the question of what is causing the problem is crucial

to figuring out what to do about it, it is by no means a sufficient concern. Employees may feel attacked if queried endlessly about why they are messing up. It is inappropriate to ask trainees why they are not proficient on a *new* system or technology. They don't know it because no one has taught them. As Mager would say, even with a gun to their heads, they couldn't use the computer language or maintain the numerical control lathes. Cause usually isn't a relevant concern when you are dealing with innovations.

Solutions

This is a less frequent problem, but one which does appear. It is the behavior of a training professional who isn't sure about what else to ask, so he or she asks how incumbents want to get trained or where or when they want it. Admit it. You too have seen needs studies which are filled with questions about locations, times and modalities for training. This is particularly irresponsible because the opinions of job incumbents on solution preferences is not often considered when final decisions are made about how to solve the problem.

TNA Purposes and Techniques and Tools

We use analysis techniques and tools to fulfill purposes. The kinds of information we seek determines our technique. Some techniques enrich our knowledge about optimals. Other techniques meet the need we have to know what is currently happening. Still others lead us to information about feelings and causes. When we are trying to figure out what to do first and next in TNA, we have to determine how we have done on the achievement of our purposes. What remains to be discovered? Do we need more information from sources in order to be confident about optimals, actuals, cause, feelings or solutions?

Examples

Consider these examples of slivers of data from TNAs. As you look at them, ask:

- Is this information about optimals?
- Is this information about actuals?

- Is it information about feelings? or cause(s)? or solutions?
- Do I need more information to feel confident that I know what is happening here and why?

☐ Of the 89 accident reports involving hands, arms and fingers, 74 percent of the victims had been on the job for fewer than 6 months. The accidents involve several different pieces of equipment.

☐ Sixty-one percent of reporters anonymously agree or strongly agree with the statement that they "are not the kind of person who would use a computer." Fifty-five percent disagreed or strongly disagreed with the statement that "with a good class, I could get comfortable using the portable computer." Only 8 percent of the current reporters have requested use of the portable computers on which they've already received some training.

☐ Call-backs for improperly installed phones are driving management wild. Even though installers have a manual which details every step in the installation process, they are still not getting the phones in and operating.

☐ In his video address to new hires, the CEO describes the kind of safety effort he expects on the job. The Vice-President of Personnel also writes a memo specifying additional efforts that each unit is expected to undertake to diminish accidents and work-related illnesses.

Think now about **purpose-based TNA**. Think about what we know and don't know in our quest to fulfill each of the purposes. In the first accident problem, we know something about actuals, probably not enough, but something. Clearly we lack information on causes and can infer optimals and feelings. The last example, also about accidents, provides information about optimals. Charged with developing safety training for this CEO, the trainer would need to know a great deal about actual performance. The training professional assigned to increase reporter use of portable computers has information about actuals and feelings and nothing about optimals and cause, although the feeling data (*"no way I can learn to use computers"*) has obvious implications as you ponder the cause of this problem.

ANALYSIS TECHNIQUES & PURPOSES

PURPOSE   **TECHNIQUE**

	Extant Data Analysis	Needs Assessment	Subject Matter Analysis	Task Analysis
• Optimals		X	X	X
• Actuals	X	X		
• Feelings		X		
• Causes		X		
• Solutions		X		

Figure 2.1

TNA Techniques Link to Purposes

TNA is the quest for what is and ought to be going on. It is also a systematic effort to find out causes, feelings and solutions. While I think energy and marketing to senior management should focus on purposes, it's useful to link purposes to familiar phrases: extant data analysis, needs assessment; and subject matter analysis. The other dominant technique, task analysis, is effectively treated in Ken Carlisle's *Analyzing Jobs and Tasks*, the first book in the series of which the present volume is a part.

Chapter Three introduces these analysis techniques, pairing them with the purpose(s) for which they are best suited. In an attempt to nail down the mushy language surrounding front end analysis, I've taken familiar front end phrases and linked them to the reasons we do all this interviewing and assessing and surveying. (See Figure 2.1)

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Part One: INTRODUCTION

Chapter Three: INTRODUCING ANALYSIS TECHNIQUES AND TOOLS

TNA Techniques and Tools

The heart of this book is a belief that there are **five central purposes for TNA**. These five purposes are described in Chapter 2. Figure 3.1 presents the relationships between techniques, tools and purposes. Analysis techniques and tools are introduced and briefly described in this chapter.
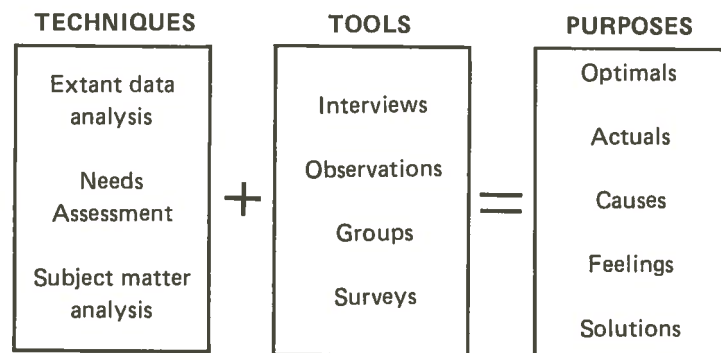
TECHNIQUES		TOOLS		PURPOSES
Extant data analysis		Interviews		Optimals
	+	Observations	=	Actuals
Needs Assessment		Groups		Causes
		Surveys		Feelings
Subject matter analysis				Solutions

Figure 3.1

ANALYSIS TECHNIQUES

Extant Data Analysis (EDA)

Extant data is the "stuff" that the company collects that represents the **results of employee performance**. It might be sales figures, accident reports, call-backs for non-repair, shrink reports, letters to management, attendance figures or exit interviews. The key is that we seek aggregate results of employee behavior, not just a single letter of complaint or call-back. **In EDA we do not look at what the employee does; we look at effects and then we infer back from results to draw a picture of actual performance.** We seek the outcomes of employee actions in light of the goals of the corporation or agency. We can infer a great deal about current employee performance from results.

Thus, extant data analysis unearths ACTUALS, providing a picture of what is actually happening in the work place. While EDA presents a stark vision of the effectiveness of employees, it does not tell you WHY there is or is not a problem or how employees feel about it.

To understand EDA, we have to think about the distinction between behavior and accomplishment, action and the results of that action. This useful distinction was highlighted by Thomas Gilbert (1978) in *Human Competence*. Consider the salesperson who makes many cold calls, but sells few products. Or consider the instructor who talks and talks, points and gestures, but then her students begin their jobs not really able to carry out the procedures which were taught in the course.

The training professional does not go out and generate extant data anew. Rather, he or she asks for access to that which already exists, to the records and files which reside within the corporation or agency. That might mean asking for computer printouts on sales, completed performance appraisals or requests for transfer. Extant data analysis is treated in more detail in Chapter Five.

Needs Assessment (NA)

In addition to providing the name for this book, NEEDS ASSESSMENT is also a specific front end technique which fulfills the entire range of TNA purposes. **It is the way we go out and seek *opinions* on the optimals, actuals, feelings, causes and solu-**

tions from a variety of sources. Extant data is about inferences based on results. Needs assessment is about opinions. Unlike extant data, which is already in existence, needs assessments involve contact with sources to seek new information and perspectives on why sales are down or requests for transfer are up.

During needs assessment, training professionals seek opinions from relevant sources. What is the nature of optimal performance or expertise? How are things going now? What are employees currently doing that works? that doesn't work? What are the feelings that surround this portion of their job or new technology? What do sources think is causing the problem and, sometimes, how do they think it ought to be solved?

Think about the problem of training telephone operators to relate to customers in the new, computerized context. For extant data analysis, the training professional would look at figures on number, nature and length of contacts. He or she would also ask to see letters of complaint or commendation from customers. Needs assessment, on the other hand, might involve conducting interviews with supervisors, operators and customers. A printed survey might also be distributed to get an anonymous picture of operator feelings about the new system and their ability to handle it. Needs assessment is the subject of Chapter Six.

Subject Matter Analysis (SMA)

During subject matter analysis, trainers or instructional developers seek the nature and shape of bodies of knowledge which employees need to possess to do their jobs effectively. It is a quest for the details of OPTIMALS, the information that an informed employee possesses which enables him or her to get the job done. It might be information about resources appropriate to handling customer questions or rules about accessing the computer system. Or it might be the ways that different diseases manifest themselves, or information about the compatibility of a line of computer peripherals. The search is for mental schema or connections that represent what the effective performer knows.

Subject matter analysis is conducted through interaction with subject matter experts and documents to derive essential information. This information then serves as the basis for training programs and job aids.

The challenge in subject matter analysis is to ferret out the details of invisible bodies of knowledge. Think about the difference between successful sales and successful telephone installing, or between brilliant medical diagnoses and effective drawing of blood. Sales and diagnoses are based on facts, concepts and principles, invisible to the naked, observing eye, and stored as schema in the mind. Watching the salesperson or the physician won't tell you what they know which enables them to make decisions and be effective. Certainly some of it might be inferred. But not the essential details and relationships. Those optimals must come from interviews with the subject matter experts and reference to the literature which surrounds their work. This analysis technique is covered in Chapter Seven.

The details of phone installation, deck swabbing and taking blood are more accessible through observation. That leads us to task analysis.

Task analysis is a TNA technique that derives OPTIMALS attached to visible tasks. Relying primarily on observation, during task analysis model performers do what they do well so that a comprehensive description of that excellence can be recorded by the training professional. These elements of visible, optimal performance then serve as the basis for training. Task analysis is not treated in this book because it has been successfully treated elsewhere (Carlisle, 1986; Zemke and Kramlinger, 1982; Davis *et al.*, 1974).

Analysis Tools

Interviewing

The interview is the most prevalent TNA tool. We interview as part of needs assessment, subject matter and task analyses. During interviews, we pursue information related to all TNA purposes. It is also possible that an interview might provide access to extant data. Chapter Eight describes how to use interviews as a TNA tool.

Observing

While observation is a useful and highly touted front end tool, my research suggests it isn't used in TNA very much at all. I'd like

to encourage a rekindling of interest in the tool. We might use observations for perusing extant data and for capturing the details of optimal or actual performance during subject matter and task analysis. Observation as a TNA tool is discussed in Chapter Nine.

Facilitating Groups

One cost-effective way of getting and disseminating information, and of garnering support, is through the use of TNA groups. The use of groups for TNA is based on a belief in synergy, that the product of the interaction of many participants transcends a traditional sum of the parts. Groups are often used as a jury of experts to derive a consensus opinion on optimals. They can, of course, be used for every other TNA purpose. Chapter Ten is about the use of groups to carry out TNA.

Surveying Through Questionnaires

In Chapter Eleven, steps and examples are presented for planning, writing and disseminating TNA surveys. The questionnaire or survey is an excellent device for acquiring information relevant to all possible TNA purposes.

Resources

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Part One: INTRODUCTION

Chapter Four: PERFORMANCE PROBLEMS AND THEIR CAUSES

Introduction

One of the purposes of TNA and a concern which runs through the training and development literature (Harless, 1970; Gilbert, 1978; Mager & Pipe, 1984) is the quest for the *cause of the performance problem*. It is a concern that is close to my own home and heart.

Ten years ago, soon after I got my first cat, I worried about why she was always mewing, begging and looking skinny. I fed her and fed her and fed her. Still she mewed, begged and looked gaunt. Not to be beaten by this thing, I changed brands of cat food and gave her more of it. I figured she had a hefty appetite and an enviable metabolism.

So I kept feeding her and she kept doing the things that assured I would keep up the feeding schedule. Months later, as I told the story to a friend, he diagnosed the cat as having worms. Which she did. I was feeding my cat and her insatiable worms. I also was rewarding her begging and mewing with frequent food.

This cat tale from my life focuses on **a problem and its cause.** All the food in the world would not have solved my cat's problem because the problem wasn't too little or the wrong food. Similarly, there are performance problems which training can't alter because they aren't caused by an absence of training.

The cat story has another lesson for us. My cat was *doing a number on me*. I reinforced her mewing and toe nibbling with food. She reinforced my incessant feeding by behaving like an angel for a few hours just after I fed her. She gave me a brief illusion that she was sated so I continued to stuff her.

There were two causes of this problem—the worms AND the incentives we were both using on each other. **Problems often have several causes. We're only able to solve problems if we can ferret out their cause or causes.**

Brief Description

Chapter Four presents performance problems, their possible causes and the options human resources professionals have for solving these problems. While earlier chapters drew our attention to the quest for the nature of problems in the work place, to the use of TNA to clarify optimals and actuals, this chapter highlights **CAUSE.** We are concerned about cause(s) when performance problems have initiated our efforts.

Think about . . .

- middle managers who fail to turn in their performance appraisals;
- breakdowns which indicate difficulties with maintaining certain switching systems;
- office workers who ignore powerful capabilities within their word processing systems;
- teachers who leave the microcomputer in the closet at the back of the room; or
- tellers who sell few financial accounts.

In all of these instances, somebody or several people think there is a problem. When the desired performance is, or should be familiar, we seek the cause of the problem.

That's different from when we're attempting to integrate a new system or technology into the corporation. Determining cause is rarely a front end purpose when introducing innovations. People don't know how because it's new to them.

Therefore, in this chapter we focus on problems in familiar situations. The managers, engineers, office workers, teachers and tellers aren't doing something that somebody thinks they ought to be doing. There is a gap between optimal and actual, albeit a non-specific one, but a gap all the same, in an ongoing situation. In addition to the quest for details about the gap, the performance professional must find out **why** there is a discrepancy.

Even though we often bear the title of **trainer,** responsible practice of our profession involves searching analysis of whether

or not **training** will fix this problem. Joe Harless, Thomas Gilbert, Robert Mager and Peter Pipe, with excellent work in this area, **focused the trainer's attention on conducting an analysis of the CAUSE(S) of the problem BEFORE using a training intervention.** We must seek cause(s) of performance problems because problems have four different kinds of causes and **different causes necessitate different solutions.**

Kinds of Causes

Problems have causes and performance problems are no different. There are four types of causes of the problems that trainers encounter.

☐ **1. Absence of skill or knowledge**

This is the employee who, as Mager and Pipe (1984) pointed out, can't do it even if you put a gun to his or her head. They can't because they **lack the skill or knowledge**. They don't know how to climb the telephone pole or swab the deck or lay the cables or clean the turbine or explain the new product or diagnose the illness. No matter how much management wants them to or how much they want to, they are unable to pull it off. They don't know how or they don't know how to do it up to the desired standards. They just can't. Or they can't do it quickly enough or accurately enough. A subset of this kind of cause is the absence of **prerequisite skills or knowledge.** I encountered this example while involved in a project to assist a very large corporation in setting up standards for course development: Course developers were provided with spiffy, new computers. Management thought many of the course developers were ungrateful when they failed to make immediate and significant use of their computers. For many of the developers, the problem with using the computer was that they had never learned keyboard skills. These were highly skilled, technical and operations people, mostly male, and typing skills were not in their repertoire. Naturally they did not pitch themselves into the wondrous functions of the word processor when they were hung up on and embarrassed about hunting and pecking.

☐ **2. Absence of incentive or improper incentive**

The feedback, appraisals, incentives and policies surrounding job performance have everything to do with performance problems or the lack of them. **Consequences of job performance matter.** Is desired, continuous, successful performance treated differently than flawed employee behavior? Can you point to a situation where the employee gets something good as a result of doing a good job? Or is productive performance ignored, possibly even punished, by leading to additional work?

Our own profession presents numerous examples. I was working with a telecommunications company to train course developers in better, sleeker course development procedures. As I conducted my TNA, prior to training anybody in anything, I kept hearing the same complaint, "While I put in 50+ hours on getting this course together, I watch Hiram sit in his cubicle and produce nearly nothing. That's the way it is throughout the company. The Hirams of our great company are ignored for their inactivity, while productive instructional designers are expected to do the work of their slothful colleagues. And do I get a bigger paycheck? Only by a few pennies! No, it's not worth it. I'm disenchanted."

Think about the baseball free agency and the incredibly productive years that players so often have before they go out on the open market. Or consider the dulling affects of tenure on academia.

We are talking about **CONSEQUENCES**, and the way people perform if the results of their action are **known to them and linked to more optimal job performance.** When we are looking at a situation in which people **could do it if they wanted to, flawed incentives are often a contributing cause of the problem.** That's the telephone operator who could provide courteous assistance; she or he knows how. That's the professor who could advise students in career and course options; she or he knows how. That's the instructional designer who could get that CBT course finished on time; she or he knows how. Often they will do it if there are incentives associated with the desired performance.

The emphasis here is on two things:

- **Strong, suitable** incentives, appropriate to the employees
- **Known**, public and consistent incentives

Strong incentives are things, activities or opportunities that employees want. If you want to figure out what works with a

group of employees, look at their behavior. If it has increased with a particular incentive program, then you probably have one that works, for now anyway. The traditional programs involve money and promotions, but there is no reason to limit the company to those. Career development opportunities are a definite possibility, as are tickets to sports events or keys to the corporate cabin in the woods. But just because you think you'd like the incentive, don't assume it will serve as an incentive for all employees. Administrators at my University give football tickets to productive faculty and staff. Well, while it is a sweet gesture, few professors leap at the opportunity to watch San Diego State's losing football team.

On the other hand, Mary Kay Cosmetics knows what it's doing with incentives. They offer lots of little incentives keyed to lesser, but desirable, performance. Then they offer big, visible incentives distributed to a few highly productive sales people. The incentive program works because this sales staff likes the money, the group vacations and the image and dream of a pink Cadillac.

I've heard corporate personnel and training directors lament the ungrateful nature of employees who fail to recognize just how wonderful an incentive is. You can't strong-arm people into being entranced with an incentive. Talk to them and watch what they choose for themselves; that will provide clues to strong incentives that can be tied to effective performance.

Nor can you expect employees to be thrilled when their excellent labors increase their workload. There are endless tales of the repair person who gets more work orders because of superior speed and accuracy. Or the training specialist who is assigned more and tougher problems because the trainer (a Hiram clone) in the office next door isn't performing. Or consider the engineer whose excellent research and development earns her the opportunity to give numerous public presentations; in addition to having more work to do, she is kept from the laboratory and rewarded with what she considers to be a less desirable task.

Imagine yourself as the trainer in that last example. You are charged with getting star engineers up to speed on presentation skills in a context where those engineers are not volunteers; in fact, they dislike anything that keeps them away from the work

that made them stars in the first place. Will training solve the problem of engineers who make perfunctory public presentations? Not likely.

What about management attention? An employee who is productive, makes numerous contacts, comes up with many ideas, puts ideas on paper, is going to get some attention from management. Is management putting a damper on activity by providing negative feedback? Sometimes the non-performer is ignored while the prolific performance gets tons of attentive CRITICISM.

Do employees know what will happen to them as a result of performing the facets of their jobs? **It is incredible to conduct TNA and repeatedly hear employees say that doing or not doing X or Y makes no difference.** Especially when queries to management just about always yield assurances that there are policies surrounding that performance. Do these policies find their way into practice? **Strong, carefully selected incentives must be KNOWN TO EMPLOYEES AND CONSISTENTLY PRACTICED BY MANAGEMENT.**

□ 3. Absence of environment support

Incentives and environment are directly related. After all, what is a more telling component of the environment than supervisors, managers and the policies they enact. The overlap between incentives and environment is useful. If you overlooked some problems within the incentive system, you are likely to pick it up here, when you look once again **at all that surrounds the worker as he or she does the job**.

Are there factors outside of the trainee's direct control that prevent him/her from doing the job? Many of the problems traditionally purported to be training/instructional problems actually stem from policy, personnel or other contextual factors. There are three areas to scrutinize when determining if the environment is blocking effective performance: **personnel, policies and tools**.

Personnel. Who touches the lives of the employees who have been identified as having the performance problem? Ask these questions as you seek the causes of this problem:

- On which other employees must the trainees depend?
- Do those employees affect the problem in any way?

- Do *related* employees think this is important?
- Does the supervisor know enough about what his/her employees must do?
- Does he/she provide incentives for proper performance?
- What does he/she do if they don't perform?
- Does the supervisor agree that this is a problem or is it just a concern of higher management?
- Does the manager or supervisor want his or her people doing this?
- Are managers appraised for supervising this? What happens to them if they ignore it?

A large telecommunications company sent its curriculum developers off for intensive training in instructional systems development. After a week of training and preparation to use numerous job aids and forms to manage this course development system, they headed back to their operating companies. Their managers met them with a heap of cynicism. Within three weeks, most developers were back to doing things in the good old intuitive way. After all, nobody looked at what they were doing and turning in. It doesn't matter whether you think these developers have a problem caused by flawed incentives or environment; it could be called either. The important point is that you recognize that more training for these curriculum developers won't make a dent in this problem. In this case, the managers are the ones whose performance is causing the problem.

Policies and Procedures. What does the company or agency tell the employee and his supervisor about this particular facet of the job? Look to related policies and procedures.

- Consider the flight attendant who fails to act with sufficient responsiveness to the passenger. Is there a policy warning against fraternizing with passengers? Might the fine line between fraternization and responsiveness be causing problems?
- Or consider the assembly workers with frequent accidents. Has there been introduction of a new procedure for production without lowering the productivity expectation? Maybe the worker is attempting to maintain productivity

levels before he/she is sufficiently adept with the new procedure.

- Another example is the employees who only rarely use the Centrex telephone system. A related factor is that they are never evaluated for using it or not using it. There are no formal policies which manifest themselves in performance evaluations that give teeth to the platitude . . . *"Employees will attempt to conserve corporate resources . . ."*

Tools. What does the company or agency give the employee to do the job? For some jobs and problems this is not a significant factor. But for others, especially in skills training, tools are crucial to efficient and safe task completion. Look at some examples:

IDENTIFIED PROBLEM	TOOL PROBLEM
1. Increased scrap production	1. Gloves which were recently issued to lathe workers are too thick for rapid, easy, fine-tuned adjustments.
2. Lost paperwork	2. Desk storage systems are unlabeled. No designated trays or colored files.
3. Telephone repair people are taking excessive time diagnosing problems for the past 60 days.	3. Trouble-shooting kits do not include equipment appropriate to the rain and flood problems of recent months.

☐ 4. Absence of motivation

Joe Harless places motivation and incentive together when he talks about the possible causes of performance problems in *An Ounce of Analysis Is Worth a Pound of Objectives.* Mager and Pipe do the same. Their point is that consequences, external results, weigh heavily when we are attempting to improve performance. Often, if you alter and systematize the incentives, you've fixed the problem. With that I agree.

But I'd like to go a bit further. If you look at enough performance problems, you eventually become dissatisfied with a solely behavioral explanation of what's causing performance problems.

Recent, more cognitively oriented literature in training and development (see Bandura, 1977; Harmon, 1979; Keller, 1979; Sprague, 1981; Nuttin, 1985) focuses our attention on **what's going on inside the employee**. When we lump incentives and motivation together, we ignore the difference between internal and external factors and focus only on the more traditional external variables like incentives and environment.

What is motivation and how can the work that has been done in this area contribute to our understanding of performance problems and their causes? In 1979, *The Journal of Instructional Development* published John Keller's discussion of the implications of motivation theory and research for instructional designers. Acknowledging the roots of our field in **both** behavioral and cognitive psychology, he lamented the omission of attention to the internal aspects of trainees, "to the heart or spirit of the learner." Citing the earlier work of Porter and Lawler and Bandura, Keller presents a useful explanation for motivation:

VALUE X EXPECTANCY = MOTIVATION

VALUE is the worth individuals attach to things or outcomes as evidenced by their choice of it given other options. Trainees have to have a sense of what *it* is, what they will be able to do *with it*, and why *it* is worth doing. They must be able to cogitate on what is good, worthy and valuable about that which they are about to learn, either for its **immediate or future implications**. Think about your own professional development. You are likely to be attending a seminar or reading this book because you are conducting or anticipate conducting front end analyses.

EXPECTANCY, confidence or efficacy is the trainee's perception of personal likelihood of success at the task. Will the staff be able to operate and maintain the new intravenous units? Will I be successful at mastering PASCAL? Will my mother acquire hanggliding skills? Here is an illustration of expectancy, a concept which Bandura contributed to our repertoire.

The setting is lovely; the workshop leaders are competent. And my mother is there because my brother dragged her. She however is not paying attention, wiggling even, making comments which annoy the other beginning students, most of whom are college

students. She is the classic unmotivated student. She wants the class to be over. She tells my brother she wants to go shopping. For hangliding, she manifests low value ("she can't imagine why she is there, of what possible use hangliding is to a 60-year-old woman") and no expectancy ("she is positive that her old bones can't fly.") **Multiply little value times no confidence and you can see exactly what's going on inside the trainees we so often dismiss as *unmotivated*.**

We can even pretend to quantify our examination of motivation as the cause of performance problems. It's a pretense because the numbers we assign are subjective and illustrative; they are our opinions of where trainees stand in relation to the subject matter. Still the numbers are suggestive and useful—as you will see in the following example:

- There are two groups who need to learn how to use the slightly complex Centrex system for corporate telecom-munications. One group is composed of college graduates, successful recipients of numerous corporate workshops, all eager for promotion. The other group is hourly em-ployees, mostly high school graduates who do filing, data input and message transfer.

Which would be the more motivated group? Which group would you rather train? If we assign some squishy hypothetical num-bers, you can see the way the different factors contribute to trainee motivation. These numbers spring out of my imagination. **In the real world, on the job, you would assess potential trainee's perceptions of value and confidence through stages of needs assessment.** Assume you can assign numbers from 0 through 10 with 0 being no value or expectancy at all and 10 being lots of it. Remember, as you think about the centrex system and the two different groups of trainees . . .

VALUE X EXPECTANCY = MOTIVATION

Trainee Group	Value	Expectancy
College graduates	7	10
Hourly employees	9	3

The first group enjoys approximately a 70; that's substantial motivation, dependable interest in the subject and in their ability to pick it up. The other group values the skills (9) even more than the first group but isn't confident about their ability to pick it up (3). The absence of "can do" feeling kills motivation. They wind up with only a 27 and would be a more challenging training assignment.

Back to my mother: If I interviewed her at the time, she would have had a zero expectancy and only a 1 or 2 value figure. When you multiple that out, it is 0 motivation, representing a near im-possible training task. Her college student classmates, on the other hand, are a delight. We can assign these volunteer students a 9 or 10 in value and high expectancy. They would rate somewhere between 80 and 100. Now that's a fun class to train!

Herein lies the theory behind what we've all felt in our bones. We'd much prefer training volunteers (high value). It is far easier to work with trainees who have had positive schooling and train-ing experiences (high expectancy). When we lack a motivated group, we want to have strong incentives to offer for desired performance, the way the military does in its training. The worst possible situation, and a common one in business, is gazing out at a group of trainees who didn't much want to be there (low or no value), doubt their ability to perform on the task (low expec-tancy) and have a supervisor who didn't much want to release them to come to the training session (impossibly difficult incen-tive system.)

Let me then introduce what I hope will be a useful distinction between motivation and incentive. What employees believe and value about a product or procedure and themselves in relation to its contributes to their **MOTIVATION**. What management does to them and for them as they work is the **INCENTIVE** system. There is what they know and feel; that's internal. Then there is what happens to them in relation to the way they carry out ele-ments of their job; that's external.

Let's look at an example which illustrates the difference in per-spective when seeking motivation vs. incentive causes:

- A chain of hospitals purchases new intravenous feeding equipment because it is purported to be more comfortable,

safer, cleaner and precisely controllable. Approximately 1/3 of the total units are in place in the hospitals. And few of them are being used. The new equipment has validated job aids on how to maintain and use it. Still staff avoid the new and rely on the old. Prior to purchasing thousands of additional IV units, management wants to make sure that the new ones are as good as promised. They can't check them out or provide better service to patients if the staff avoids the new equipment.

This situation needs to be examined for its CAUSE(S). Here's a hypothetical examination of the intravenous case. **Note the way familiarity with the different kinds of causes structures the nature of the inquiry.**

CAUSE TYPE	QUESTIONS
SKILL/KNOWLEDGE	• Does the job aid work? • Can they set up and maintain the IV? • Is it a tougher or lengthier process than the former IV?
INCENTIVE	• What happens if they use it? If they don't use it? • Do they know what is supposed to happen? Does it happen? • How do supervisors respond to it?
ENVIRONMENT	• Is the new equipment there? • Does it work reliably? • Is the old equipment equally accessible? • Is the job aid where it is supposed to be?
MOTIVATION	• Does the staff know why this IV has appeared? • Are there good reasons, reasons which can be shared with staff? • Does the staff believe they can master the use of this new technology?

These questions illustrate how motivation and incentive are different causes of performance problems and how that conceptu-

alization influences the way we question sources. There are different domains covered by the questions attached to incentives and motivation. Here is a hypothetical ending to the TNA portion of the intravenous case.

1. Skill/knowledge discrepancies do not appear to be a factor. The job aid works. When training professionals asked randomly selected employees to use the aid to set up and operate the equipment, they handled it just fine.
2. Supervisors understand the reasons for the new equipment but express doubts about whether employees know why a change has occurred.
3. There are no policies relating to rewards or punishments for use of this equipment and supervisors would prefer not to add such a policy. They feel it would be inappropriate because staff attitude might be communicated to patients if staff is coerced into using certain equipment.
4. The new and old equipment and the job aid are there and equally available.
5. While there are good and uncynical reasons (e.g., safety) for introducing the new equipment, staff are pretty much unaware of them. They don't value the new IV units and think they are a hassle. As far as they are concerned, the old way was good enough.

This is primarily a problem caused by an absence of motivation. Hospital employees don't know enough about what's so great about this new system to begin to embrace using it. When pressed, they can't provide reasons, causes and benefits to attach to the hassle of using something new when they were already so comfortable with the old. It's not that they feel they are unable to master the system. With the job aids, they do fine using it. The problem is that they lack an internalized sense of value which would compensate for the hassle of figuring out the new one.

Having the old and new equipment in close and tempting proximity also contributes to the problem. People will stick with the familiar. Removing old IVs until the new units are more familiar might contribute to their integration into the wards.

But remember the concern of the supervisors about forcing staff to use the new system. They thought that patients might be affected by staff hesitations or dislike of the new IVs. This also

could be the case if management uses an environmental solution (removing the favored old equipment) without addressing the motivational aspects of the problem.

In 1978 Thomas Gilbert wrote, "There is more nonsense, superstition and plain self-deception about the subject of motivation than about any other topic." (p. 308) He goes on to describe a foreman who used a pep talk to *motivate* his employees to carry out an unpleasant task. An operational definition of **pep talk** which uses the conceptual model I'm proposing would be one which **raises the value, importance and worth attached to the task and their confidence that they can do it—at least for long enough to get it done**. In keeping with the distinction I'm drawing, Gilbert suggests another possible solution: to provide incentives for this onerous job.

Incentives are, no doubt, very powerful. However, rarely do trainers control them. On the other hand, we can exert a powerful influence as we build value and confidence in employees. Thus, the distinction has significance for interpretation of the problem and for steps to resolve it.

Figure 4.1 summarizes and illustrates the most likely causes of performance problems. Remember problems can be caused by any combination of these kinds of causes.

Solutions Linked to Causes

While TNA costs money because it takes time and personnel, it is far more costly not to do it. Why? Because training is an appropriate solution to problems which are caused by an absence of skills, knowledge or motivation. Training will not solve problems which are primarily attributed to flawed environment, policies or incentives. Figure 4.2 highlights cause and appropriate responses.

Performance Problems & Their Causes

There are four possible causes of performance problems. Some problems have one cause; some problems have several causes. Before you start to solve a performance problem, you have to know from whence it comes.

1. They lack skill or knowledge.

Even if they want to, they just don't know how to write purchase orders or operate the word processor.

2. The environment is in the way.

They don't have the tools, forms or work space to enable them to perform. The classic example is the computer that keeps "going down" during registration or the clerk that is supposed to answer questions at the counter and file at the same time.

3. There are no, few or improper incentives.

This is so often the case at universities! What does excellent performance matter? What does sloppy or non-performance matter? Who isn't familiar with case after case of competent staff who get loaded with work and weak employees who are ignored, to their joy and delight.

4. The employees are unmotivated.

There are two factors that contribute to motivation and are multiplicatively related: value and efficacy. What good do the employees see in it (the system, form or technology)? Do they believe they are able to learn what is involved in doing the job the way it is now defined?

Figure 4.1

SOLUTIONS LINKED TO CAUSES

Kinds of causes	Solutions
Skill/knowledge discrepancies	Training Job aids
Flawed incentives	New policies, contracts Training for supervisors
Flawed environment	Work redesign New and better tools Better match between person and job
Lack of motivation	Training so can see benefits Better processes or tools if there are no benefits to cite Training which provides early, tangible successes to build confidence

Figure 4.2

The following chart presents cause, examples and associated solutions:

Problem Cause	Example	Solution
Absence of skill or knowledge	Can't troubleshoot the D-4 bay, even with the supervisor standing there (skill)	Training
Absence of knowledge	Can't compare our FUNNY MONEY package to the competition's (knowledge)	Training
Flawed environment	Old directories and reference guides hamper social worker's referrals	New guides
Flawed incentive	After developing effective CBT program, trainer gets new product with hostile expert	New work assignments
Absence of motivation	76% of the reporters at the paper admit to being either uncomfortable or slightly uncomfortable composing news stories on the computer (low expectancy) Of these same reporters only 16% could list one reason for converting from paper and pencil to computers (low value)	Training

There are four basic causes of performance problems (absence of skills/knowledge, incentive, environment and motivation) and two broad kinds of solutions:

1. **Training**: Interventions which through presentation, examples, practices and feedback teach someone to do something they were never taught, or never learned or forgot how to do. Job aids are an intervention which are often linked to training. A product knowledge seminar on a new insurance program might include preparation to use several rate and benefit computational job aids, for example.

2. **Reporting and Restructuring**: Professionals with training-related titles are now more frequently perceiving themselves as *performance specialists*. That kind of vision, one which relies upon skills in job redesign, climate interventions and organizational development leads to solutions which have little to do with training. Non-training solutions, or remedies, as Joe Harless calls them, should be recommended or effected when the cause indicates. Our options are varied. For example, new policies, a new personnel appraisal form, a different work schedule, new tools, rewards for desired performance, or managerial action regarding non-performance might be suggested as remedies. The key here is to look at the problem, figure out what is causing it and act accordingly. It isn't unusual to be told to develop training for a group, then to conduct a TNA, only to discover that your original, presumed trainees are not the cause of the problem. Rather, their managers are the ones who are the major contributors to the discrepancy. Or that all the training in the world isn't going to increase sales. Again, report on it. The purpose of TNA is to gather information so you can bring managerial attention to what is really going on and to WHAT IS CAUSING IT. That will reserve training interventions for appropriate problems and innovations.

Resources

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