

Linking Training To Organizational Impact

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Abstract. Organizations are successful to the extent to which they deliver things which are useful to clients. In order to run effectively and efficiently, many organizations spend large amounts of time and money in professional and technical training. If training is not linked to that which an organization uses, does, and delivers, the investment is better made elsewhere.

The ways in which training may be linked usefully to the various levels of organizational efforts, results, and impact are described. Also described are (a) an allocation of where various categories of personnel (Technical/Professional, Middle-Manager, Senior-Manager, and Executive Senior Manager) work relative to the Organizational Elements Model; (b) cases-in-point concerning responsibilities and activities; (c) tools and techniques usable by each category of organizational member, and d) a training requirements identification and development cycle with an allocation of functions for determining who is concerned with each stage of the process. Finally, the relationship of the above with Needs Assessment and Needs Analysis is suggested.

Organizations succeed or fail on the basis of what they deliver. If their outputs are useful to clients and society, they will endure. If not, they will tend to falter and decline. Because that which goes on inside organizations determines what they can deliver, considerable concern is devoted to internal workings and results. Frequently, when an organization wants to survive, it invests in improving internal operations, and one

way to accomplish this is to enhance human performance through training. The identification of *what content should be trained, who should receive the training, and how these relate to organizational effectiveness and efficiency* is the topic of this article.

The Organizational Elements Model (OEM) Provides the Basic Referent for Linking Training to Organizational Requirements.

Regardless of what an organization does or delivers, it may be seen as operating in the zones of organizational efforts, organizational results, and organizational impact. What an organization uses, does, completes, and delivers may be further subdivided into five "organizational elements" which relate to internal and external considerations (see Table 1).

Before embarking upon any training effort (or other intervention) requirements for what to change as well as what to continue should be obtained from policy and plans: one should determine where an organization is heading and why it wants to get there. In turn, these organizational intentions should be based upon documented gaps in results, ideally rooted in gaps in organizational impact in and for society—Outcomes.

Planning for Useful Results

Any useful plan requires a strategy for linking organizational efforts, such as training and staff development, to the balance of that which an organization does and must deliver. To do this, one determines what has to be accomplished by the total organization, and then identify that which must be done to get from current skills, abilities, and products to those which are required. The reality of organizational life soon reveals:

1. Organizations are already set-up and running, with assignments, budgets, and territories already staked out, and

Table 1
Five Organizational Elements and How They Relate to Internal and External Considerations

ELEMENT NAME	EXAMPLES	SCOPE	CLUSTER
INPUTS— (raw materials)	ingredients, existing human and physical resources, existing needs, goals, objectives, policies, laws, money, values, state-of-the-world.	INTERNAL (Organization)	Organizational Efforts
PROCESSES— (how-to-do-its)	means, methods, procedures, how-to-do-its, techniques, "Japanese" management training, manufacturing, organizational development (any "doing" activity).		
PRODUCTS— (en-route results)	orders completed, services delivered, reports completed, surgery completed, skills acquired, production quota met, tellers trained, disc drive produced, etc.		Organizational Results
OUTPUTS— (the aggregated products of an organization which are delivered or deliverable to society)	delivered automobile, delivered computer system, patients discharged, delivered finance package for municipal airport, etc.		
OUTCOMES— (the effects in and for society indicated by self-reliance, contribution)	profit, off of welfare, no addictive relationships with others and/or society, having financial credit, contributing to self and society, customer satisfaction.	EXTERNAL (Societal)	Societal Results/ Impact

Note. (From Kaufman, 1983).

2. Most organizational goal-setting has been done "at the top" (usually in vague terms) and the definition downward for internal organizational action has usually been left to the good judgment of the supervisors in the chain of command. The net consequence of this is to have a set of tightly defined *activities* at each level of the organization with little or no formal linking of these efforts with required results at the same organizational level and with those building up to that which the organization is expected to deliver. We are usually missing an interrelated lattice of results at each organizational level.

In order to improve the effectiveness of any organization, there should be a shared vision by all employees as to where the organization is going, why it is going there, and what each person at each level can contribute to that individual and collective success (see Figure 1). Recent works dealing with "excellent" organizations and so-called "Japanese management" indicate a common characteristic: the existence of a shared vision of organizational purposes and a holistic (or unfragmented) focus

for employees and management alike (cf. Drucker, 1973; Pascale & Athos, 1981; Peters & Waterman, 1981; Kaufman, 1982; Kanter, 1983; Peters & Austin, 1985).

Allocation of Function, the Organizational Community, and Organizational Success

Not everyone in the organization is capable of planning relative to Outcomes. Each person has her own assignment and responsibilities. But it is important that everyone's efforts and Products be complementary and symbiotic. Each of the Organizational Elements must fit together, and work interdependently with each other and the organization, not independently of the survival and self-sufficiency of society. A sensible allocation of functions to organizational personnel is practical and desirable if they are interrelated properly. Such a possible allocation follows.

Personnel assigned to Inputs. Some personnel are concerned with Inputs, such as the equipment and stores clerks and supervisors, auditors, accountants,

compliance enforcers, and facilities and equipment managers.

Personnel assigned to Processes. Other personnel are "doers" who are responsible for correct and timely delivery of Processes, such as trainers, developers, planners, tellers, engineers, technicians, chemists, strategists, and administrators. Efforts, energies, and resources (Inputs) are used in Processes: anything that goes between Inputs and Products is a Process.

Training, for example, is a Process which is intended to measurable improve the effectiveness and efficiency of personnel. Training is a Means to accomplishing useful Products...results accomplished by people. If training is to be useful and worth the investment, it should allow people to achieve useful results, not just any result.

Personnel assigned to Products. Some personnel are responsible for the immediate effects of the Inputs and Processes upon results—the accomplishment of Products. Instructors and training personnel have to certify the acquisition of specific skills, knowledge, and attitudes (based upon a profound hope or data that the Objectives have been written correctly and are valid). Managers are interested in the Products of group accomplishment, such as setting up a field communication network according to specifications, assuring that customer accounts are credited without error, or delivering a successful advertising campaign. Most supervisors and middle-level managers are concerned with the linkages between Inputs and Process in terms of the Products they deliver.

Personnel assigned to Outputs. Senior managers, especially, are responsible for the overall effectiveness of a group, a division, or a major corporate action. They are concerned not only with the individual and collective fragmented Products, but they are concerned with the orchestration and integration of all of the Products taken together in delivering useful and timely Organizational Results.

Personnel assigned to Outcomes. Executive Senior Managers (and those who want to become one) are concerned with the cumulative effect of all of the Organizational Elements in terms of organizational survival, relevance, and societal contribution. To be concerned with less would mean that the organization could be a solution to nobody's problems. The most senior and successful managers are concerned first with Out-

comes, and then, usually by delegation of responsibility to others, assuring that each of the Organizational Elements fit together into a coherent, cohesive, useful whole.

Integrating All of the Assigned Personnel

In order for any one individual's assignment in the area of one of the Organizational Elements to be successful, that which they accomplish and deliver to the other Elements must be evaluated and found to be useful as well as compliant. Each Element must check, at least, with the Element next to it to assure that it is delivering things which are useful (see Box 1).

By each element level (actually the people responsible for doing it) checking with the one (or better yet, all of the others) adjacent to it, a consistency and coordination of efforts and results will be better assured. The general assignment and concern of organizational personnel to each Organizational Element is shown in Figure 2.

Each level operates to achieve a "fit" with the other levels to ensure total organizational effectiveness and efficiency. The frame of reference suggested here gives specifics on who is accountable for what, and provides a blueprint for the delegation of authority and responsibility. Training and management development for each of the levels should emphasize and clearly delineate the skills and abilities required of each, and state exactly how each level will be integrated and related. Managers at all levels tend to primarily supervise and coordinate that which is done and accomplished by the Technicians/Supervisors, orchestrating that which is delivered at increasingly higher management levels to assure that a correct linking and integration occurs. It is important to note that while an individual's work assignment might be at a given level, there should be a consistent and on-going commitment to that which their organization does, produces, delivers, and the impact of all of this external to the organization—a concern for all of the organizational elements. Following are some cases-in-point from a hypothetical project to implement a new computer-based teller operated accounting system which probably requires training.

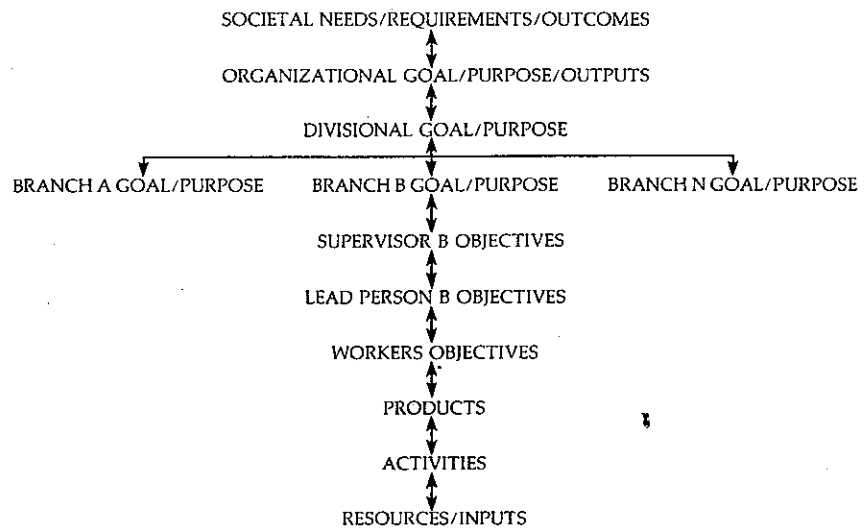


Figure 1. What organizations use, do, accomplish, and deliver should be integrated and related towards a common external impact.

Case-in-Point: Technician/Professional Level Contribution

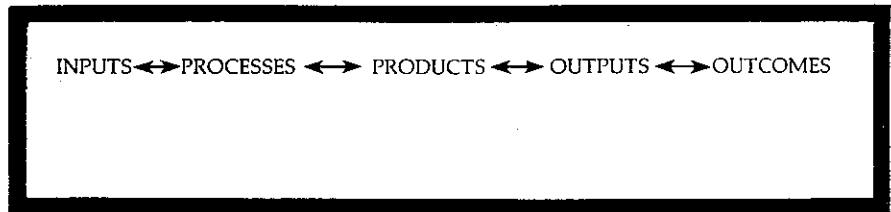
If assigned the development of a self-paced teller training course for a new accounting system which is to be operational within six months, this level accepts the assignment, assuming management has come to the requirement by valid and useful needs assessment and analysis, planning, trade-offs, and allocation of resources and risks.

They will be assigned the tasks of determining the trainees' entry skills, knowledge, and attitudes, determine the resources and funds available for such training (dollars, instructors, instructor competencies, location for training, appropriate regulations, etc.), and then will develop individual training courses and training materials using specific instructional design and development

techniques (drawing upon such tools as front-end analysis, systematic approach, systems approach, individualization, self-pacing, television, multi-media, etc.) to meet specified objectives (usually supplied or approved by the Middle-Manager). The training course or instructional materials will be designed, developed, tested, and sent to middle-management for approval. This level is most concerned with Inputs and Processes (in order to deliver Products).

Case-in-Point: Middle-Manager Level Contributions

This level is required to assure quality and timeliness of the Products of the Technician/Professional. The Middle-Manager assumes the correctness and utility of her assignment, and is responsible for accomplishing it. If an internal auditing course is required for the new



Box 1.

bank accounting system, then she assures that it is completed according to specifications, and that it delivers the required skills, knowledge, and attitudes for completers of that course. As a supervisor of Technicians/Professionals and their results, there is a concern for and management of Inputs and Processes (e.g. approving the analysis of Input characteristics of trainees, sites, methods-means-media trade-offs, etc.) and she will certify compliance with all requirements, rules, and regulations.

This level also develops or assures the performance specifications and objec-

Products meet their objectives. The Senior Manager must also be concerned that all of the Products "fit" together to achieve useful results for that management unit. For example, when developing the training courses for the new accounting system, she is responsible for all of the Inputs, Processes, and Products required to deliver a useful Output: to ensure that all which is designed, delivered, tested, and released will allow the computer assisted system to operate according to specification, including all human interactions with the hardware.

The Senior-Manager assumes that

sible for the compliance and utility of all Outputs developed in the organization. While supervising the actions and results of all Senior-Managers, she is responsible for the well-being and success of the total organization, not just for the success of a single department, division, subsidiary, or group. This person not only has to assure that the new computer-assisted system works according to specifications, but also has to ensure that it is the correct solution to current and predicted consumer problems and situations, and must revise as required if it is not.

She understands that all individual Products and Outputs *might* be in compliance with assigned specifications, but may NOT contribute to the marketing and profit potency required. (In sociological terms, she acts on the knowledge that "the whole is greater than the sum of the parts.") Not only do all of the parts have to work individually, but they must also integrate and coordinate, with everything the organization does, should do, and will do in operational situations.

The Executive Senior-Manager's concern and responsibility is with the TOTAL organization, while other managers are concerned with their assigned responsibilities. Thus, the Executive Senior-Manager is concerned with the "holistic" perspective, while the Senior-Manager and the Middle-Manager are concerned with individual pieces of an organization.

Linking All Organizational Efforts and Results

Any useful approach for an organization will define and accomplish interlinking of the five Organizational Elements. To do less may result in a possible inefficient, and worse, ineffective set of deliverables to the rest of the organization. Technician/Professionals and Middle-Managers are generally charged with "reaction" activities, since they assume the validity and utility of the assignments and charges made to them by the Senior-Managers.

Senior-Managers can assure the effectiveness of the organization, Middle-Managers and Technicians can only ensure compliance with assignments, and the efficiency of their assigned work. Executive Senior Managers may determine current and future impact, and affirm or change policy relative to organizational impact outside of the organization boundaries.

Figure 2. Organizational Elements

	INPUTS	PROCESSES	PRODUCTS	OUTPUTS	OUTCOMES
Technicians/ Professionals:	P	P	P		
Middle-Managers:	S	S	P	S	
Senior-Managers:				P	S
Executive Senior- Managers:				P	P

Where P=Primary concern and S=Secondary concern

tives for any Product which will be developed and delivered. The responsibility for the objectives and the quality of the Technician/Professional's Products rests with the Middle-Manager.

The focus of attention for the Middle-Manager will usually be at course level, or course cluster level. The Middle-Manager should identify any potential problems in the Products she is to deliver in terms of their utility in the organization and in the field. The Middle-Manager is responsible for Inputs, Processes, and Products.

Case-in-Point:

Senior Manager Contributions

The Senior Manager has a wider perspective and associated responsibilities than those reporting to her. She must make certain that all completed

the new computer-assisted system is useful, important, and is to be made user-ready. However, it is her responsibility to report to supervision any actual or potential problems in terms of possible inability to meet current and future marketing and user scenarios.

The Senior-Manager assumes that the new computer-assisted system is useful, important, and is to be made user-ready. However, it is her responsibility to report to supervision any actual or potential problems in terms of possible inability to meet current and future marketing and user scenarios.

Case-in-Point:

Executive Senior-Manager Contributions

The Executive Senior Manager has the widest-angle perspective, and is respon-

Case-in-Point:

Linking all levels

Using the hypothetical new computer-assisted accounting system example, the following are the areas of concern for each level:

Technician: uses resources and applies processes and tool in order to meet assigned specifications for courses

Middle-Manager: assures compliance with regulations and assures that the assigned Products for the course are delivered on time and will meet assigned requirements. Also, that other assigned, related training courses are completed as well, such as a central processor troubleshooting course, keyboard operation and input codes.

Senior-Manager: assures that all courses and technical support actions and Products are delivered according to specification and on time, and that all of the elements of the program will allow the computer operators to meet all assigned objectives and will mesh with all other banking operations. The Senior-Manager will coordinate all Products to assure that the entire accounting system will work when it is delivered and deployed.

Executive Senior-Manager: ensures that the entire system will work in customer environments, and makes organizational decisions concerning modifications and additions, and mandates and assigns new required thrusts.

Tools for Different Operational Levels

Each operation level, because it has a unique organizational purpose, tends to use tools which are most appropriate for their assigned jobs. Table 2 presents a listing of those tools which will most often be used by personnel operating at each level (using a training example, although the same approach may be used for any intervention). While each of the tools and techniques *could* be used by members at any operational level, they were assigned in Table 2 on the basis of frequent, usual, and primary concern with actual usage. Who applies these tools, and when do they get used?

The Training Development Cycle and Associated Responsibilities

In the operational reality of an organization, there will be a general training development cycle which will start first with the Executive Senior Manager identifying the organizational goals and directions, and from which

Table 2

Tools and Approaches Used by Different Levels of Organizational Personnel

	Professionals/ Technicians	Middle Managers	Senior Managers	Executive Senior Managers
Systems Approach	X	X		
System Approach			X	X
Systematic Approach	X	X		
Quasi-Needs Assessment	X	X		
Methods-Means-Media Analysis	X			
Methods-Means-Media Selection Techniques	X			
Instructional System Design and Development Techniques (ISD)	X	X		
Objectives	X	X	X	X
Front-End Analysis	X	X	X	
Needs Analysis	X	X	X	
Task Analysis	X			
Auditing	X	X	X	
Cost-Efficiency Analysis	X	X	X	
Cost-Effectiveness Analysis		X	X	
Cost Benefit Analysis			X	X
Cost Utility Analysis			X	X
Internal Evaluation	X	X	X	
Program Evaluation and Review Technique		X	X	
Needs Assessment		X	X	X
Management By Objective		X	X	X
External Evaluation			X	X
Goal-free Evaluation			X	X
Summative Evaluation	X	X	X	X
Operational Planning	X	X	X	
Long-range Planning		X	X	X
Strategic Planning			X	X

any operational decisions, Products, and deliverables will flow. Generally (but not always) the flow and responsibilities will be as presented in Table 3.

The foremost concern in the above general cycle is assuring that any intervention (such as training) will contribute to organizational impact. The data concerning where the organization is going, and why it is going there involves conducting a needs assessment. After completing a needs assessment and identifying and placing the gaps in results into priority order, a needs analysis will identify the roots of the needs. Applying needs assessment and needs analysis tools and techniques as presented below may help to get useful training efforts "off to the right start."

Applying Needs Assessment and Needs Analysis Tools and Techniques

Following are some steps which each level of organizational training activity might follow to conduct a successful assessment and subsequent analysis of needs.

Middle-Manager Level and Technical/Professional Level

This will be a Needs Analysis effort. When assigned by the Middle-Manager, the Technician will:

- Identify current performance levels as measured by tests or comparison of current performance levels with existing performance standards and (but not or) determining perceptions of performance problems from experts or involved parties.
- Identify required levels of performance.
- Determine gaps in levels of performance, ideally by different types of learners.
- Identify skills, knowledge, and attitudes which should be changed.
- Identify skills, knowledge, and attitudes which should be continued.
- Identify the causes for performance discrepancies through analysis of the components of behavior (such as conducting a learning hierarchical analysis of required acquisition and comparing that with the actual, currently induced learning steps and levels).

Table 3
Steps for Training and Development

	Professionals/ Technicians	Middle Managers	Senior Managers	Executive Senior Managers
Determine current organizational policy, goals, and strategies			X	X
determine outcome discrepancies			X	X
Select outcome discrepancies to be closed				X
Identify document and select needs		X	X	X
Assign front-end analyses		X		
Set measurable objectives	X	X	X	X
Determine possible methods-means-media for meeting objectives	X			
Conduct front-end analysis	X			
Conduct needs analysis	X			
Conduct task analysis	X			
Conduct quasi-needs assessment	X			
Identify, document, and select quasi-needs	X	X		
Determine cost-benefit of alternative quasi-needs	X	X		
Obtain training requirements	X	X		
Assign training packages and programs		X	X	
Assign other human performance improvement programs		X	X	
Conduct methods-means-media analysis	X			
Select methods-means-media	X	X		
Approve methods-means-media		X		
Schedule and design methods-means-media	X			
Plan and manage training system development and test	X	X		
Field test methods-means-media	X			
Determine cost-effectiveness	X	X	X	
Determine cost-efficiency	X	X	X	
Revise as required	X	X		
Release completed training package (or course)		X		
Review program progress and en-route accomplishments		X	X	
Require and obtain revisions		X		
Release final training/human improvement development programs		X	X	
Install successful training programs		X	X	
Eliminate unrequired training programs			X	X
Determine linkages with other organizational agencies to assure overall impact ability.			X	X
Integrate training requirements with overall system selection, design, delivery, and implementation			X	
Assign external evaluation				X
Conduct external evaluation	X			
Require necessary revisions		X	X	X
Assure organizational ability to neutralize any external threat				X

• Recommend methods-means-media for closing the gaps and maintaining the currently successful performances.

The Middle-Manager will approve the objectives, and allow the Technician/Professional to move ahead with course development. Data sources which could be used include current training test results, performance data, simulation exercises, specific testing by the Technician relating to current job results, expert opinion, supervisory judgments. (Note: these last two may be very unreliable sources of data and should be cross-related to performance data-based results.)

Senior-Manager Level

This will be a Needs Assessment ac-

complished at the Product and Output levels. Here the Senior-Manager will (or cause to be accomplished):

- Determine current performance levels of individuals and/or teams in operational situations.

- Determine required performance levels of individuals and/or teams in operational situations. (This is Needs Assessment-related since it deals with gaps in Products and Outputs.)

- Determine gaps in entry and exit levels for supposed enabling training courses and programs which "cause" the performance discrepancies. (This is a Needs Assessment at the Product level.)

- Determine possible ways and means

of closing the gaps at the Product and Output levels based upon diagnosed causes. (This is Needs Analysis, for it is focusing on causes or origins of the Needs rather than upon identifying and documenting Needs.)

- Select the ways and means for closing the gaps in Products and Outputs.

- Assign the ways and means development to a Technician/ Professional through a Middle-Manager.

Executive Senior-Manager Level

This effort will be a Needs Assessment since the identification of gaps in resources and causes should be accomplished at a lower level. The Executive Senior-Manager will (or cause to be accomplished):

- Identify current and future opportunities and threats to the organization.

- Identify current performance capabilities of the organization in each of the current and future organizational goals and objectives.

- Identify gaps in performance capability by major organization entities (such as divisions, departments, groups, etc.).

- Identify existing competent response and performance capability.

- Identify change requirements and continuation requirements to achieve required results. (These are External Needs Assessment-related issues, and they relate survival and self-sufficiency—Outcomes—with delivery capability—Outputs—in order to determine Needs.)

- Identify causes for the Needs in terms of those Products which constitute each Output and Outcome. (This is a shift to Needs Analysis since it is seeking causes for Needs, not just identifying the Needs.)

- Identify causes which are changeable within the organization.

- Identify causes which are external to the organization.

- Recommend changes, both Internal and External to the organization and/or to the board of directors.

Needs Assessment and Needs Analysis are linked. Needs Assessment identifies, documents, and justifies the gaps in Outcomes, Outputs, and Products, while Needs Analysis identifies the causes and origins of the gaps in results. Both Needs Assessment and Needs Analysis are best data-based, and should include empirical data whenever possible. In actual practice, needs assessment and needs analysis may collect both performance and perception data and use those to

determine agreed-upon areas of needs. Both needs assessment and needs analysis are critical for linking organization training with effective future organizational results.

Relating Training, Needs Assessment, Needs Analysis and Organizational Impact

Training is one possible intervention which could be used to improve organizational results. Before embarking on the expense of training, management should be quite clear about where the organization is going (and why it is going there), and then relate the internal processes and results the organization produces to that common shared purpose.

Excellent companies usually have workers with a shared vision of purpose, especially about making a contribution to a better world. Implementing any training program without a clear definition of how its results will contribute to the total organization's efforts and results (Figure 1) risks spending time and resources on improving organizational efficiency without contributing to organizational impact. Needs assessments will identify both internal and external gaps in results. Needs analysis will provide information about the roots of these performance gaps, from which specifications for possible training may be derived. Using the tools described and related in this article, one may link training and organizational impact.

Author Note. This article uses specific definitions presented at length elsewhere (Kaufman, 1983a and b).

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