

# Needs Assessment—A Digest, Review, and Comparison of Needs Assessment Literature

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Meeting the many requirements of clients, fellow associates, and society has become a requirement for organizational success (Popcorn, 1991; Kaufman, 1992; 1998). In response to these increasing demands of both internal and external clients, "needs assessments" have become a mainstay in organizational management of recent years. With a history that can be traced in part back to 1952 (Moore and Dutton, 1978), the needs assessment process has become an integral part of many organizations. Private and public sector organizations alike are making great strides at identifying and prioritizing performance problems, intervention requests, and/or resource requirements as well as possible organizational contributions. The focus on determining "needs" has led to a growing body of literature on the topic of needs assessment. This research digest integrates the major literature in an effort to review and compare many models and case studies that relate to needs assessment.

## An Introduction to Needs Assessments

For a process that is so basic and rational, it is remarkable that there is so much confusion about what a needs assessment is and how to conduct one. Unfortunately, the wide application of the term "need" to many different types of activities for a wide range of reasons (c.f. Scriven, 1991) has often hindered the usefulness of the practice and keeps so-called needs assessments from making the most useful contribution. This lack of a precise definition and the variety of needs assessment models

that exist can lead to unrealistic expectations of what should be accomplished under the heading "needs assessment." A frequent consequence of these disparate understandings, definitions, and needs assessment processes are disappointing results.

Confusion often begins with the many processes that are related to and/or mistaken for needs assessments. These related processes include *needs analysis*, *front-end analysis*, *training needs assessment*, *training needs analysis*, *needs surveys*, *demand analysis*, and others. These various terms confuse the topic of needs assessment in that the contributions of an assessment and an analysis are far different. A needs assessment should be designed to identify and prioritize needs,<sup>1</sup> while a needs analysis should break an identified need into its component parts and determine solution requirements (Watkins and Kaufman, 1996).<sup>2</sup>

So where to begin a needs assessment that produces useful results? When improving what a proposed project, program, activity, or intervention does and delivers, here are some basic needs assessment-related questions to ask:

- What results are we now achieving, and how do those compare with those we should deliver?
- What are our contributions to our own organization, as well as to the success and well-being of our external clients, including society?
- How do we prioritize and justify our needs?
- How can we demonstrate that the interventions we select will deliver a positive return on investment?

- How can a needs assessment help us conduct sensible evaluations and implement continuous improvement?

Tough questions? Sure. But if we don't provide sensible answers to them, what will our future hold? Needs assessments, done with useful focus and integrity, will answer these questions and better ensure your success...and the success of your organization.

We suggest that practical and pragmatic needs assessments provide a process for identifying and prioritizing gaps between current and desired results (Kaufman, 1992; 1998; Kaufman, et al. 1993; Watkins and Kaufman, 1996). Under this suggested definition of needs assessment, the assessment process ends before selecting any intervention (be it training, the current school-to-work project, human resources development, restructuring, or total quality management). What the assessment does is provide the basic data for assuring that solutions, once selected, deliver desired and useful results for internal and external customers.

Though the literature does not offer unanimous agreement with this definition of needs assessment, there does seem to be agreement that this approach is best suited to performance improvement (Witkin and Auschuld, 1995). Whether these areas are identified as training requirements, resource inadequacies, and/or gaps in results is dependent on the assessment model applied.<sup>3</sup> The literature reviewed in this digest should assist decisionmakers in determining which needs assessment model will provide the results they desire and require. Under the suggested definition though, only identified gaps in results would be the products of a needs assessment, while training requirements and resource inadequacies would be the product of a needs analysis.<sup>4</sup>

Additional confusion surrounding needs assessments often stems from the varying goals and objectives of organization, as well as differing understandings of which level a needs assessment should focus on (societal, organizational, individual/small group, processes, and/or resources).<sup>5</sup> So what is the first step in determining which needs assess-

ment model is best for your organization? It is to recognize the options provided by the various assessment models.

The differences among needs assessments becomes even more evident when individually examining three related primary factors:

**Means vs. Ends.** One key differing characteristic of needs assessment definitions and research is the focus of the assessment on means or ends. Means are the processes, interventions, programs, or "how-we-dos" that an organization uses to achieve desired/required results. Ends are the results an organization or individual produces and delivers to clients, including their impact on the community. According to Kaufman (1998), "We should select our means based on the ends we wish to achieve." Needs assessment models vary in their focus on the results to be achieved and/or the processes assumed to achieve results: difference of "doing the right things" versus "doing things right," as suggested by Drucker (1973).

The review of needs assessment models in the major literature indicates a conventional primary focus of most assessment models on training interventions (methods-means) and not on the results to be achieved through performance improvement. We suggest this is a likely fundamental mistake that plagues many needs assessments. By determining the solution (conventionally "training" more often than not, and more recently computer-based interventions) before identifying the performance problem (a gap in results at the individual, organizational, and societal levels) a needs assessment frequently becomes a needs analysis. By doing so, organizations miss the opportunity to gain the benefits of a needs assessment; such organizations start improving performance before really knowing what useful accomplishments should be achieved in the first place.

**Level or Scope.** Needs assessments offer performance improvement initiatives as unique opportunities to approach performance improvement from a variety of assessment levels: individual, organizational, and/or societal levels. Conventional

"business wisdom" usually only defines two levels of organizational planning and decisionmaking: organizational (or macro) and individual/small group (or micro). Kaufman (1997) suggests that this limited frame-of-reference has kept businesses focused on a "conventional bottom line" (one of short-term profit). But a new paradigm of societal value-added has emerged (Popcorn, 1990; Drucker, 1973; Kaufman, 1992; 1998) and with it a "societal bottom line" as well as a societal (or mega) level of planning and decisionmaking. This increased demand on organizations to add value to their community compels the performance technologist to "up" the scope of a needs assessment to include societal results.

Though this new paradigm of business has brought out the importance of societal value-added, the needs assessment literature has, for the most part, been unresponsive to this contemporary trend (with some exceptions mentioned later). In addition to the few needs assessment models addressing this level of societal results in the identification of gaps, much less organizational results in their assessment processes. By not addressing either organizational or societal results in many common assessment processes, performance improvement initiatives cannot be linked to their potential payoffs. And while many needs assessment models do address individual and/or small group results in their assessment processes, their value added to an organization and to society can only be hoped for or assumed. The remaining needs assessment models elect to focus efforts on the identification of process/intervention and/or resource deficiency and offer little assurance that resulting performance improvement decisions will contribute to any level of results.

**Techniques.** The last primary difference of needs assessment approaches identified in the literature concerns the recommended steps for completing an assessment. Variations in the processes suggested by assessment models range from relying solely on survey data, document reviews, and single-method approaches to multi-method data triangulation techniques. Additional difference across techniques is often whether performance/accomplishment

data ("hard data" that are independently verifiable) and/or perception data ("soft data" that are not independently verifiable) are collected and used.

Methods and techniques, though, are best selected only after the purposes and primary targets of a needs assessment are known and justified, linking methods of assessment to useful purposes. This relationship between the methods (or means) and the results (or ends) of useful data-based decisions is a central consideration for choosing any needs assessment approach. Though primary considerations in choosing a needs assessment model are likely to vary from organization to organization, it is suggested that an objective review of current assessment processes, as well as available models, be completed in systematic format.

**Considerations in the Needs Assessment Literature Review and Comparison**

In our review of 30 years of literature on needs assessment, we identified a number of characteristics associated with four major areas. These include recognition of 1) the intended audience and client of needs assessments, 2) results formally addressed in terms of several organizational levels, 3) functional processes, and 4) criteria used to gauge findings. These correspond roughly to Mager's (1997) format for measurable objectives and provide a basis for selection among the various models given the organizational results desired. These components are presented in Figure 1, and their definitions are provided below.

**Audience.** The relevance of this component has recently been elevated by the increasing requirement for organizations (private and public) to be responsive to society—assessment models that take into consideration both internal and external clients are preferable to a model that considers only one or the other. Such an approach is likely to be the most logical for all organizations and acknowledges internal clients (such as coworkers and management) as well as those external to the organization (for example, the local community, end-users, and taxpayers).

- Target Audience: intended practitioner/user of the model and the

- consequences of the resulting data and interventions
- Client Focus: primary recipient and beneficiary of needs assessment results when applied

**Results Focus.** Given that needs assessment, by definition, includes identifying discrepancies between current and desired results, it is beneficial to recognize what types of results are able to be formally addressed by any given model. In general, just as both internal and external clients are important to consider, a model that formally addresses results at the societal level is considered more practical and realistic than one that focuses solely on organizational or individual results. This is due to the fact that almost all organizational activities have implications not only for any immediate clients, but also for society and external clients now and in the future. For example, a car manufacturer has several types of clients: internal clients, car dealers, customers, passengers, end users (which may or may not be customers), and society.

A popular framework for the evaluation of human resource development interventions, especially training, is Kirkpatrick's four-level training evaluation approach (Kirkpatrick, 1994; 1996). Evaluation is the practice of comparing current results with past intentions, while needs assessment is the process of identifying and prioritizing gaps in results between current and desired future results, prior to intervention selection. Needs assessment, we suggest, is largely a proactive planning activity, while evaluation is usually a reactive process for summative judgement and/or revision. Kirkpatrick's schema is never the less useful for comparative purposes in that it provides a method of categorization for assessment models that is familiar to many practitioners. For the sake of this study, Kirkpatrick's framework has been expanded to include recognition of an organization's societal contributions, process efficiency, and resource quality (Kaufman & Keller, 1994; Kaufman, Keller, and Watkins, 1995).

- Societal results (societal value-added) are outcomes and payoffs for

- external clients and society. This level of results is not acknowledged in Kirkpatrick's four-level training evaluation approach but the addition suggested by Kaufman & Keller in 1994 and Kaufman, Keller, and Watkins in 1995 has recently received widening attention.
- Organizational results are value-added results *within* the organization (outputs that could be delivered to external clients). This corresponds to Kirkpatrick's Level 4.
- Small group results are on-the-job building-block accomplishments and contributions produced by organizational sub-units, corresponding to Level 3 of Kirkpatrick's framework.
- Individual results are building-block accomplishments and contributions produced by individuals, also corresponding to Kirkpatrick's Level 3.
- Application of skills is the utilization of skills by individual or small group within the organization, also corresponding to Kirkpatrick's Level 3.
- Acquisition of skills is demonstrated by mastery and competence by individual or small group within the organization. This corresponds to Kirkpatrick's Level 2.
- Reaction to intervention concerns the perceived adequacy and efficiency of processes and means and is equated with Kirkpatrick's Level 1.
- Resource availability/quality deals with the usefulness of human, financial, and physical inputs, and also corresponds to Level 1 of Kirkpatrick's framework.

**Functional Processes.** Since each of the models surveyed in this study possess unique nuances, the processes examined relate to the thoroughness of the model. While not all are technically required for a needs assessment, many may help practitioners make better informed decisions about where their organization should be heading and how to know when it has arrived.

- Evaluation types addressed: Can assessment findings be used for process improvement (formative) or program continuance (summative) purposes?
- Continuous improvement: Does the



model allow for process improvement and associated results-improvement as required?

- Linkage between alternative results foci: Is the results focus of the model organized outside-in, inside-out, or both? Outside-in starts the assessment with a definition of external client and societal value-added and then rolls down—inside the organization—to define building-block results. Inside-out assessments start with organizational resources and results discrepancies and attempts to link those upwards through the organization and hopefully to external results and consequences.<sup>6</sup>
- Guidelines for prioritization: Does the model provide specifications for the prioritization of needs based on cost, importance, consequences, and/or value-added for both internal and external clients?
- Responsiveness: Is the model useful for solving existing problems (reactive) or anticipating future opportunities (proactive)?
- Provides tools and methods: Are “how-tos” provided in the form of worksheets, research methods, toolkits, and/or other aids?

**Criteria.** It is essential that practitioners are aware and actually employ the standards by which findings are evaluated. In general, measurable objectives are preferable to “fuzzy” goals or intents. Similarly, “hard” performance data— independently verifiable data—are usually best for decisionmaking purposes, especially when interval or ratio scales of measurement are used. Doing so better ensures that needs (gaps in results) rather than wants (preferred solutions and/or resources) are identified and documented. Additionally, the use of stringent criteria in needs assessment (measurable on an interval or ratio scale) simplifies the task of evaluation because the valid, useful, and justifiable criteria will have already been developed.

- Goals/Objectives focus: Does the model advocate criteria based on general aims, purposes, and intents (goals) or rigorous and precise performance specifications and indicators (objectives)? Goals provide

measurement based on nominal (named) or ordinal (ranked) data, while objectives’ measure on an interval (equal-distance ranking) or ratio (zero-based) scale. According to Kaufman (1992), using Stevens’ (1951) formulations gaps in results (needs) should be defined in the form of an objective.

- Data source: Does the model advocate perceptions (soft data, not independently verifiable) or actual performance/effectiveness (hard data, independently verifiable) concerning needs.

It is clear that a needs assessment might have many masters to serve. The questions and clients one elects to deal with will be vital in the appropriate choices.

## Needs Assessment Literature

The following literature was identified with the intention that they represent available contributions to the field of needs assessment. When available, published summaries and/or abstracts were included with the descriptions. Additional summaries for books and journal articles are also provided.<sup>8</sup>

## Books and Chapters Representing the Major Literature

*Authur, L. (1993) Improving Software Quality. New York: John Wiley and Sons.*

Authur’s model for “investigating the problem” is provided within the context of software development and improvement. The model suggests that problem assessment begins with an analysis of customers and suppliers. The model focuses efforts around the requirements of end users or those “who ultimately serve the external paying customer.” After customer and supplier requirements are addressed, Authur recommends that the processes be inspected to “identify defects created in the cycle, use data to identify the root causes of defects from each cycle, and improve the process each time you go through.” The author further develops the assessment model by adding a “Performance Evaluation Matrix” built around problem themes (or areas) as well as a guide for specifying problem themes. While the

model does not address societal or organizational results specifically, the quality focus on the requirements of both internal and external customers offers software developers tools for improving their products. However, before improving software the developer should determine if the initial software development was derived from a results-focused needs assessment.

*Burton, J. & Merrill, P. (1988) Needs Assessment: Goals, Needs and Priorities. In L. J. Briggs, K. L. Gustafson, M. H. Tillman, (Eds.), Instructional Design: Principles and Applications. Englewood Cliffs, NJ: Educational Technology Publications.*

The four-phase model for needs assessment proposed by Burton & Merrill is applicable for practitioners in a variety of disciplines, and recognizes both internal and external clients. Additionally, this model focuses on “the application of needs assessment in the development of instructional materials at the level of a course” (pp. 25–26) and intentionally does not address societal and organizational results. Doing so, the authors acknowledge, relies on the assumption that the acquisition of skills learned in a course will contribute to desired societal outcomes and organizational outputs. This rolling-up—from inputs to process to products—may result in an internally efficient plan of operation where inputs and processes are linked to individual or small-group payoffs and assumes, rather than ensures, that higher-level results at the societal and organizational levels will follow. Burton & Merrill’s model uses instructional goals, rather than measurable performance objectives, which are presumed to possess the specificity necessary for practical and reliable decision-making, and to be accurate.

*Gilbert, T. (1978) Human Competence: Engineering Worthy Performance. New York: McGraw-Hill.*

Gilbert provides an insightful discussion of why and how people differ in opinion concerning various solutions to performance discrepancies. His focus is on process improvement—well before the popularity of quality management surfaced—as the

# Literature Analysis

Audience										Focus				Functional Processes						Criteria	
Audience (government / business / education)	Client Focus (internal / external / societal)	Societal results	Organizational results	Small group results	Individual Results	Application of skills	Acquisition of skills	Reaction to intervention	Resource availability/quality	Evaluation types addressed (formative / summative)	Continuous improvement	Linkage between results	Guidelines for prioritization	Responsiveness (proactive / reactive)	Provides tools and methods?	Goals / Objectives focus	Data source (hard / soft)				
Needs Assessment Literature																					
Books and Chapters																					
1. Authur (1993)	B	I,E		?	•	•	•			•				R			H,S				
2. Burton & Merrill (1991)	G,B,E	I,E			•	•	•	•	•			U	•	R	•	G	H,S				
3. Gilbert (1978)	G,B	I		?		•	•	•	•			D		P,R		G	H				
4. Gordon (1994)	G,B	I		?	•	•	•	•	•		•	D		R		G	H,S				
5. Hannum & Hansen (1989)	G,B	I		?	•	•	•	•	•	S		D	•	R	•		H,S				
6. Kaufman (1992, 1998)	G,B,E	I,E,S	•	•	•	•	•	•	•	F,S	•	D,U	•	P,R	•	G,O	H,S				
7. Mager & Pipe (1997)	G,B,E	I			•	•	•	•	•			D,U		R	•	G,O	H,S				
8. Murk & Wells (1988)	B	I			•	•	•		•	F,S	•			R		G,O	H,S				
9. Robinson & Robinson (1995)	G,B	I			•	•	•	•	•			D		R	•	G,O	H,S				
10. Rosseti (1987)	G,B,E	I			•	•	•	•	•					R	•	G	H,S				
11. Rothwell & Kazanas (1992)	G,B	I			•	•	•	•	•	S		D	•	R	•	G,O	H,S				
12. Rummier & Brache (1990)	B	I,E			?	?	•	•	•		•	D,U		P,R	•	G	H,S				
13. Witkin & Altschuld (1995)	B,E	I,E			•	•	•	•	•	F,S	•	D,U	•	R	•	G,O	H,S				
14. Zemke & Kramlinger (1985)	B	I			•	•	•	•		F,S	•	D		R	•		H,S				
Journal Articles																					
15. Cline (1993)	G,B,E	I						•	•					R	•		H,S				
16. Cureton, et. al. (1986)	B	I	•	•	•	?	?					D		P,R		G	H,S				
17. Darraugh (1991)	G,B,E	I			•	•	•	•	•			U		P,R	•		H,S				
18. Faibairns (1991)	B	I				•	•	•	•					R			S				
19. Freeman (1993)	B	I	•	•	•	•	•				•	D		P,R			H,S				
20. Graham (1986)	B,G	I			•	•	•	•	•				•		•	G	S				
21. Johnson (1996)	B	I	•	•	•	•	•	•	•			D		R			S				
22. McArdle (1996)	B	I			•	•	•	•	•			D		R			H,S				

Figure 1. Literature Analysis.

Needs Assessment Literature	Audience (government / business / education)	Client Focus (internal / external / societal)	Societal results	Organizational results	Small group results	Individual Results	Application of skills	Acquisition of skills	Reaction to intervention	Resource availability/quality	Evaluation types addressed (formative / summative)	Continuous improvement	Linkage between results (upward / downward)	Guidelines for prioritization	Responsiveness (proactive / reactive)	Provides tools and methods?	Goals / Objectives focus	Data source (hard / soft)
23. McClelland (1992, 1993)	B	I			•	•	•	•	•	•		•			R	•	G	S
24. Nelson, et. al. (1995)	G	I		?	•	•	•	•	•	•		•	D,U		R	•	G,O	H,S
25. Nowack (1991)	B	I				•	•	•			F,S		U		R			S
26. Ostroff & Ford (1989)	B	I		•	•	•	•	•	•	•			U		P,R		G,O	H,S
27. Stranger (1993)	G,B	I							•	•		•			R	•		H,S
28. Triner et. al. (1996)	G,B,E	I,E,S	•	•	•	•	•	•	•	•	F,S	•	D,U	•	P,R	•	G,O	H,S
29. Watkins & Kaufman (1996)	G,B,E	I,E,S	•	•	•	•	•	•	•	•	F,S	•	D,U	•	P,R	•	G,O	H,S
30. Wright (1992)	B	I		•	•	•	•	•			F	•	D		P,R			H

Table key is included in column titles.

means by which individual and organizational “performance measures” discrepancies can be closed most efficiently with available resources. In communicating his model, Gilbert provides two versions of a Performance Matrix: one full-scale and another truncated version for application. His proposed Performance Matrix does not specifically address how desired results can be assessed and linked at the societal, organizational, individual, and small-group levels. Gilbert asserts that “at whatever level we ultimately wish to draw conclusions about performance, we must begin by identifying the context at a higher level” (pp.120). However, his discussion of a holistic framework that starts at a “philosophical” level and cascades down to “tactical” and “logistical” levels is reduced in application to “simplified performance matrix,” which does not extend beyond a conventional focus on one’s organization. Gilbert’s Performance Matrix does go beyond behavior to the achievement of internal accomplishments necessary for the closure of individual and organizational performance discrepancies.

Gordon, S. (1994) *Systematic Training Program Design: Maximizing Effectiveness and Minimizing Liability*. Englewood Cliffs, NJ: Prentice Hall.

Gordon approaches needs assessment as an analysis activity, and does not so much identify and document gaps in results as discuss inputs and processes that the organization can employ when prescribing training and non-training solutions to its internal clients. The Front-End Analysis Model rolls down from desired individual results, though it does not formally address desired small group, organizational, or societal results. Instead, it acts to identify resource unavailability and/or faulty processes for shortcomings in individual performance. While the quality and availability of inputs and processes are essential for organizational success, Gordon does not acknowledge systemic errors which, according to W. Edward Deming, are the cause of 80% of performance discrepancies (in Clark, 1994; Triner, et. al., 1996). Further, the model operates in a primarily reactive mode in which gaps between goals and actions (processes not performance) are shaped by end-user’s preference and