Relating Needs Assessment, Program Development, Implementation, and Evaluation

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INTRODUCTION

The last 10 years have brought an increasing interest in assessing needs along with a responsibility for accomplishments. Consequently, several varieties of needs assessments have appeared, each with its own assumptions, scope, tools, and procedures (Witkin, 1977). In this paper we explain and differentiate among several types of needs assessment. Furthermore, we recommend one type—the external needs assessment—as a most useful starting point for planning and accomplishment. Finally, we present the steps for implementing this and other types of needs assessments.

Upon completion, you should be able to discriminate between needs assessments and quasi-needs assessments. You also should be able to describe the processes of external and internal needs assessments and relate them to organizational efforts and organizational results and then further relate these to organizational impact upon society (the Organizational Elements Model). Our intention is for you to discriminate among and be able to employ various models and techniques for developing a program of interventions based upon needs, implement it and evaluate it—all for an effective and efficient identification as well as a solution of any problem.

This unit consists of 10 sections:

Sections 1-4 provide definitions and explanations of basic concepts that are used in this instructional unit.
Sections 5-8 deal with the processes of needs assessments, planning, implementation, and evaluation (the “how-to-dos”).
Sections 9-10 provide checklists to summarize the steps involved in needs assessments, planning, implementation, and evaluation.

Each section is numbered to identify it for later summary questions and review. If you think you already know the content, go directly to the questions embedded in each section and to those at the end of this unit. If you do not know it, proceed through the content and upon completion check your understanding by answering the questions at the end.

DISCUSSION OF BASIC CONCEPTS

1. Need Defined

The term need is used here in a unique and singular way: Need (a noun) is a gap between “what is” and “what should be” in terms of results (Kaufman, 1972). Defining need as a gap between desired results and observed results ensures that no solutions, how-to-do-its, or processes for closing the gap will be included in the need statement. It avoids the confusion of means and ends. Including any type of means,
solutions, or processes in a statement of need will reduce the options for meeting that need and, thus, foreclose the possibility of finding new or creative ways of closing the gap. Furthermore, by using need as a verb (e.g., “We need more money”), we risk implementing a solution (money) that may not fit with the basic underlying gap in results (the real need). A need is a discrepancy—a difference in results—not necessarily a deficit or deficiency. An assessment that produces statements such as, “We need to provide more in-service training for the supervisors,” or “We need more audiovisual equipment for our staff training program,” would fall into a “wish list” category because the statements assume that important gaps in results exist—an assumption that a needs assessment should verify or reject with valid, objective data. Further the statements assume that these solutions will close those gaps ... by “wishing” for a solution vehicle instead of documenting a gap in results before considering possible means for closing a gap.

PRACTICE EXERCISE 1

1. Which of the following statements are “means” and which are “ends”?
   a. John should get a training program.
   b. John should get more education.
   c. John should be able to support himself and his family.
   d. John’s wife should learn how to keep spending within the family budget.

Answer:

2. Which of the following are not “needs” as defined in this section?
   a. We “need” instructor training.
   b. We have a “need” for a needs assessment.
   c. 37% of our graduates are unemployed, and our target was to have 90% fully employed.

Answer:

2. External and Internal Needs Assessment

Derived from our definition of a need, the term needs assessment simply means determining gaps between current results and desired or required results and selecting the most critical gaps for closure.

There are two possible overarching referents for needs assessment: one that looks at needs from a holistic point of view outside the organization—in society, and one that looks at needs as seen within an organization. The first is called external needs assessment, and the second is termed internal needs assessment (Kaufman & English, 1979).

An external needs assessment attempts to identify the results that are important in order for someone to be, at least, self-sufficient, self-reliant, and not economically dependent once he or she is outside the organization (educational or industrial). The requirements for this “independence” should be used as the basis for planning (Kaufman & Carron, 1980). In other words, an external needs assessment considers what individuals will have to do to be self-sufficient once they exit the educational or training system. Can they get and hold jobs? Survive socially and personally? Maintain physical and mental health? Make contributions to their community and society? If there are gaps between what individuals can do in the current situation (the “what is”) and what they should be able to do (the “what should be”) with regard to the criteria of self-sufficiency and contribution, then action should be taken to close these gaps.

Once these external criteria are set, the internal varieties of needs assessment become useful because fewer assumptions are required regarding the organization’s effect or impact on society. The social usefulness of organizational efforts thus can be increased and maintained.

An internal needs assessment attempts to identify gaps in organizational goals and objectives and, thus, enables one to correctly identify means for accomplishing the results previously determined through an external needs assessment. This linking of external and internal reduces the chance of developing “blue sky” internal objectives. Unfortunately, most efforts in needs assessment are currently of the internal variety only, i.e., restricting the investigation to gaps in accomplishing current goals and objectives within a particular organization. Internal needs assessment is best augmented with external needs assessment data (Kaufman & English, 1979) to ensure that organizations will be useful means to societal ends.

Consider a major automobile manufacturer that has been suffering great losses in sales. What will it do? Before considering doing anything, it would be wise first to take into account external criteria such as: What are major trends in societal requirements for cars (e.g., safety, fuel efficiency, environmental impact)? What is the customer looking for? How affordable is the product to the buying public? What is the cultural and physical environment demanding? Then consider an internal point of view that looks at the goals within the organization: how to produce more cars (of the correct type) in less time and at lower cost and sell them as profitably as possible. Since societal criteria will undoubtedly affect sales, they ought to be considered first. Increasing productivity without a receptive market might doom the company.
PRACTICE EXERCISE 2

Which of the following are external factors:

a. 27% of the 1979 production was recalled because of safety hazards.
b. Cars should be stylish and appealing.
d. Car sales should be up 46% in 1981.
e. Quality control shows a 31% rejection rate of transmissions.

Answer: b, c, and e are in an external factor. Items a, d, and f are in a internal factor.

3. The Organizational Elements Model (OEM)

In conducting an external needs assessment, it is necessary to relate both to people within the organization under study as well as to the reality of what people have to know and do outside that organization—currently and in the future. These relationships (shown in Figure 1) can be clarified according to an Organizational Elements Model (Kaufman, 1979; Kaufman & English, 1979) that will serve as the major tool for relating needs assessments, program development, implementation, and evaluation.

The organizational elements are:

Inputs:
The existing, available raw materials, ingredients, and starting conditions that an organization has on hand with which to achieve its mission:

- Needs
- Money
- Goals
- Equipment
- Policies
- Facilities
- Personnel
- Laws
- Plans
- Learners

Processes:
The methods and means, the ways, and the how-to-do-its by which ingredients and materials are staged, managed, modified, and put into action such as:

- Instructional programs
- Management by objectives
- Staff development
- Participative management
- Supervision
- Production lines
- Curriculum
- Computer-assisted learning
- Systems approach
- System approach

Outputs:
- Graduates
- Job—Entry skills
- Licenses
- Finished automobiles
- Discharged Patient

Outcomes:
- Individual and group self-sufficiency
- Contribution (current and future)

Figure 1. The Organizational Elements Model including some educational examples of each and the relationship between the elements and the Internal and External frames of reference. (After Kaufman, 1979)
**Products:**
- The enroute results (or things) an organization produces:
  - Windshields, fenders, tires
  - Validated training materials or procedures
  - Completed course
  - Attained competency

**Outputs:**
- That which an organization may or does deliver to society; an aggregation of organizational products:
  - Automobiles ready for delivery (or delivered)
  - Personnel with productive skills who work for the organization and live in the community
  - Graduates of an educational institution

**Outcomes:**
- The effects or impact of organizational results (outputs) in society:
  - Positive balance of payments
  - Persons who are economically self-sufficient
  - Ecological balance
  - Profit (as an indicator of utility of outputs)

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**PRACTICE EXERCISE 3**

Match the following to the organizational element they best fit with:

a. There are 11,354 students entering the Class B training program this year. There were 8,115 last year.

b. There currently is no inservice staff development for human resources development workers, so a training program is required.

c. 315 people last year committed suicide because of depression over inoperable tumors, and the number must be reduced to no more than 75 by next year.

d. The current discharge rate of patients from the Block Memorial Hospital is 93%, and it should be 99% within 2 years.

e. Scores on the functional literacy test for entering freshmen at the State University is 9.2 grade level, and it should be 10.8 or above.

f. At this time 90% of all students pass physics, and at least 96% should.

**Answers:**

4. Needs, Quasi-Needs, and the Organizational Elements Model

Figure 2 shows a representation of the Organizational Elements Model with two added dimensions: "what is" and "what should be." This figure suggests that a procedure (the solid arrows) that incorporates both internal and external needs assessment would include determining, progressively, "what is" for inputs, then move to processes, then to products, then outputs, and finally to outcomes. The purpose of following this sequence is to determine linkages and the required level of congruence between the organizational elements.

![Diagram of Organizational Elements Model](image)

Figure 2. A sequence for determining "what is" and "what should be"; Needs Assessment (open arrows 11, 12, and 13) and Quasi-Needs Assessments (cross-hatched arrows 14, 15).
After this "what is" assessment, the same procedure may be performed for "what should be" by starting with outcomes, then moving back through outputs, products, and processes and then finishing with inputs. Thus, the gaps between "what is" and "what should be" for each of the elements (or combination of elements) can be identified through discrepancy analysis (arrows 11-15, Figure 2).

An important but subtle point should be emphasized regarding the "fit" between internal and external environments and between outputs and outcomes. It is not enough simply to count the number of "output" units produced by an organization; if the organization is to enjoy continuing success, its outputs must be valued and useful in the external environment. Thus, if automobiles are the output, they must be sold and found useful for the corporation to achieve its mission. In like manner, graduates of educational organizations must be able to perform effectively in economic and citizen roles in society if the legitimacy of educational institutions is to be validated and maintained. The criteria for and judgments of success ultimately come from the external, not the internal, environment.

Not all discrepancies between "what is" and "what should be" are needs. In section 1 of this paper we defined a need as a gap (or discrepancy) in results. Results can be external—societal; for instance, an "outcome" of national security. Results also may be internal (organizational) products, such as trained Navy personnel, and outputs such as the Navy's performance in war games (to maintain the nation's security).

However, gaps between "what is" and "what should be" for inputs and processes are not needs. Rather, when selected without a needs assessment based on gaps in results, they may be better labeled "quasi-needs," "wants," or "wishes." We do not consider them to be needs since within the organizational elements model, inputs and processes belong in the realm of organizational efforts, not organizational results. For example, the number of submarines on station in the Navy are "quasi-needs" in terms of inputs or resources. Gaps in management-by-objectives proficiency for sophisticated equipment or assignment rotation are quasi-needs: they are processes. Thus, in Figure 2 the open arrows (11, 12, 13) indicate needs assessments, and the crosshatched arrows (14, 15) designate quasi-needs.

Many procedures found in the literature (no matter how well-intentioned) called needs assessments are really quasi-needs assessments—they examine gaps in inputs or processes.

2. Which of the following should qualify to be on a "wish list" rather than on a listing of "needs"?
   a. Train nurses in social skills.
   b. Hire three instructional technologists.
   c. Use instructional computing.
   d. Use multimedia.

   Answer: a, b, c, and d. Examples of "needs" and "excess needs." If the answer is "all are "wish list" items, they are "quality needs."

3. Classify the following statements as needs or quasi-needs. Specify whether they are internal or external, and indicate the organizational element they fit under.
   a. Sales of new medication should increase by 50% by January 1982.
   b. Experimental research should be conducted.
   c. Physicians should develop a new, improved type of medication by January 1981.
   d. Two experts in biochemistry should be assigned to the research project before February 1981.
   e. 100% of patients treated with the new, improved medication will become healthy and will function normally following 7 days of treatment.

   Answers:
   a. need, external, output
   b. need, external, input
   c. need, internal, product
   d. need, internal, process
   e. need, internal, output

4. PRACTICE EXERCISE 4

1. Review the examples in Practice Exercise 3. Classify each in terms of being a "need" or a "quasi-need."

   Answers: a, b, c, and d are "needs." Examples of "needs" and "quasi-needs." a, b, c, and d are examples of "needs."

   e. needs, a, b, c, and d are "quasi-needs."

5. Partnership Planning

To determine accurately "what is" and "what should be" for a particular set of symptoms or conditions, representatives of groups affected by the problem and its solution should be involved formally in the needs assessment effort. By involving those people who will be, or could be, affected by the outputs of the system, there will be a higher probability of acceptance of the results and a higher probability that all important aspects of the problem(s) will be identified. Partnership planning is an integral component of any useful needs assessment.

Partner group representatives—e.g., learners, educators, and community members; or patients, health practitioners, and community members—have the responsibility of determining gaps between current results and desired (or required) results according to their values. The partner groups then compare their "perceived needs" in order to find and agree upon a common set. These perceived needs should be justified and documented by empirical external data concerning requirements for self-sufficiency in order to include both "felt needs" as well as externally documentable and empirically justified needs.

Frequently, disagreements arise over means (processes) or how-to-do-its rather than over gaps in results; e.g., pa-
tient care versus patient health. There are times when people argue about means and believe they are dealing with ends. Agreement and consensus usually are increased by shifting all discussions from means to ends, ideally, to gaps in outcomes.

### PRACTICE EXERCISE 5

Partners should be included in planning because:

1. They usually will get upset otherwise.
2. They will be instrumental in seeing that any resulting plan will be successful.
3. Obtaining partner data is less expensive than doing a complete study.
4. It is important to ensure that all perspectives are considered.

**Answer:**

![Diagram](image)

#### CHANGE REQUIREMENTS

<table>
<thead>
<tr>
<th>WHAT IS</th>
<th>WHAT SHOULD BE</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g., Present curriculum does not contain objectives dealing with money management and other problem solving</td>
<td>e.g., Math and science teachers lack knowledge of student capabilities to solve real-world problems in quantity terms</td>
</tr>
<tr>
<td>e.g., Present curriculum objectives dealing with acquisition of reading skill should be continued</td>
<td>e.g., Instruction in reading skills should be offered</td>
</tr>
</tbody>
</table>

#### CONTINUATION REQUIREMENTS

<table>
<thead>
<tr>
<th>POSSIBLE INTERVENTIONS</th>
<th>SELECTED INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g., Write new objectives</td>
<td>e.g., Write new objectives</td>
</tr>
<tr>
<td>Acquire hand calculators</td>
<td>Acquire curriculum based on using hand calculators to solve money management problems</td>
</tr>
<tr>
<td>Acquire computer-based learning materials</td>
<td></td>
</tr>
</tbody>
</table>

#### OUTPUTS

| e.g., Only 30% of all learners qualify for graduation, and only 65% of graduates get gainful employment |
| e.g., At least 90% of graduates will be debt-free or have positive credit ratings |

#### OUTCOMES

| e.g., 18% of graduates are unemployed or are in debt for more than 25% of their earnings |

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**Figure 3.** Identifying requirements for change and continuation from needs assessment data and linking problem solving and planning to needs assessment information (Using an educational example).
serving that which is in-process and useful. Also, because of the wide use of discrepancy models, it is important to note that a discrepancy is not necessarily a deficiency (Scriven & Roth, 1978).

**PRACTICE EXERCISE 6**

1. A needs assessment:
   a. Identifies only what should be changed.
   b. Identifies gaps in resources and tools necessary to bring about change.
   c. Identifies both change and continuation requirements.
   d. Identifies deficiencies or deficits of the current system.

   **Answer:**
   
   [Only Item 6 is correct.]

2. The “need” to be selected for resolution is selected by:
   a. Majority vote of the partners.
   b. Relating costs and results for meeting or ignoring the need.
   c. Taking the need with the greatest gap.
   d. All of the above.

   **Answer:**
   
   [Item A is correct.]

7. **Methods and Means: Relating Intervention to Objectives**

When the listing of change and maintenance requirements is completed, the needs (gaps in results) are placed in priority order. Then, the balance of planning may be continued with the derived data. As shown at the bottom of Figure 3, planners or designers should list the possible methods-means or interventions (programs, projects, curriculum, techniques, etc.) that might serve to close the gaps and/or maintain those results that have been selected for continuation. Then, the interventions that meet feasibility and effectiveness criteria are selected (see row marked “Selected Interventions”), and implementation is ready to begin. Up to this point, this process has yielded the requirements for maintenance and change for each of the organizational elements and, further, has identified possible methods and means (strategies, tools, and procedures) for reaching the required products and outputs.

One should make functional decisions among possible alternative ways and means for doing a job based upon the results, both internal and external, that have to be achieved. Asking people about what resources or tools they want without prior reference to justified required results is a poor method for useful planning and development.

**PRACTICE EXERCISE 7**

The most useful time to select an intervention (or a methods-means) is:

1. Whenever you get the money.
2. After completing the needs assessments.
3. After completing the quasi-needs assessment for processes.
4. Whenever there is justification from task analysis.

**Answer:**

[Items 2 and 3 are correct. This needs assessment considers the performance goals, categories of methods-means that will be most successful in closing the gaps, needs assessment for process will identify the gaps in the process, which will provide the gaps in results that are to be closed, and the needs assessment will revise the inputs and output.]

8. **Evaluation and Needs Assessment**

After implementing the selected interventions, formative evaluation should take place. Figure 4 shows evaluation activities as broken arrows. Evaluation starts by going...
through the "what is—revised" elements and relating each to the "what should be" requirements to determine the extent to which the gaps actually have been closed and continuation requirements met. Notice that because implementation already has taken place, there is a "what is—revised"—resulting from the actions that have now been completed. This evaluation phase determines the extent to which one has achieved that which has been planned. Summative evaluation takes place when one compares expected results with actual results—when one examines products, and, more appropriately, outputs and outcomes.

Evaluation examines gaps between what was intended and what actually was accomplished, but needs assessment examines the gaps between what should be accomplished and that which was actually accomplished.

Evaluation looks at an existing context, but needs assessment may identify new goals or contexts—what should be.

Finally, one should use this evaluation base for continuing the needs assessment by a shift to the new "what is" for each of the elements, which has been newly created by implementation of that which was planned. Then, in the same manner, as shown in Figure 2, repeat the process based upon the changes wrought through previous efforts. Needs assessment, thus, is a continuing process and may be linked with planning, development, and evaluation.

4. Obtain data on future outcome requirements and subsequent output, product, process, and input requirements of the organization.

5. Working with the partners, determine the gaps in the organizational elements and place gaps to be resolved in priority order based, perhaps, on the "cost" to close the gap and the "cost" to ignore the gap.

10. Implementation and Evaluation Checklist

1. List change and maintenance requirements.
2. List and select possible interventions (methods and means) that might serve to close identified needs (gaps).
3. Determine the extent to which you have accomplished what you set out to accomplish.
4. Be prepared to consider new needs that might arise during the course of planning.
5. Repeat, at least periodically, the needs assessment procedure.

TEST YOURSELF

Part I

Test yourself on the main concepts that have been covered. (The number of each question is the same as the section that presents the concepts)

The correct answers to these 10 questions are presented at the end of this module.

1. Define the concept of need and explain the pitfalls encountered when using more than one definition.

2. Define what is meant by external and internal needs assessment.

3. Define the five basic parts of the Organizational Elements Model and relate each one to the others.

4. (a) Which organizational elements relate to the external needs assessment? Internal needs assessments? Quasi-needs?
   (b) Explain why all gaps between each of the organizational elements are not necessarily needs.
   (c) What is a "wish list"?

5. Explain the importance of partnership planning in needs assessment.

6. Define what is meant by change requirements and maintenance requirements.
7. Define the role of needs assessment in determining methods and means.

8. Explain the relationship between evaluation and needs assessment.

9. What are the steps in conducting a needs assessment?

10. What are the steps required to implement and evaluate after completing a needs assessment?

PART II

The concepts of needs assessment are useful in education, industry, and the military—anywhere interventions are designed and used to improve results. The challenge is to select the appropriate method to correctly analyze and diagnose organizational problems. A classification table has been prepared to assist you in making such decisions. Review the type of problem and the recommended actions shown in this table. Then proceed to analyze the hypothetical scenario that appears below. After you finish, compare your responses with those at the end of the module.

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**Classification Table:** Types of Problems and Recommended Actions

<table>
<thead>
<tr>
<th>TYPE OF PROBLEM</th>
<th>RECOMMENDED ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Adequacy of raw materials, personnel, ingredients, facilities</td>
<td>Determine input gaps</td>
</tr>
<tr>
<td>B. Effectiveness and efficiency of organizational processes</td>
<td>Determine process gaps</td>
</tr>
<tr>
<td>C. Quality of products/subcomponents produced</td>
<td>Determine product gaps</td>
</tr>
<tr>
<td>D. Quality or quantity of organizational “deliverables” to society</td>
<td>Determine output gaps</td>
</tr>
<tr>
<td>E. Organizational or individual self-sufficiency and impact on society</td>
<td>Determine gaps in societal outcomes</td>
</tr>
</tbody>
</table>

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The Scenario

The Great Atlantic Fuel Company has been having problems with fuel shipments that have been found to be contaminated. In analyzing the problem the company found that loaders often leave tank valves open and unattended after filling shipping tanks. The contamination problem was first noted when a jet plane crashed into a tenement area, narrowly missing a housing development but destroying a local job placement center. Fortunately, no one was killed on the ground; but low-income people in the neighborhood were slower in finding jobs after the crash and resulting devastation.

Examples from this scenario have been selected and listed in the accompanying problem table. Using information given in the classification table, state the actions that should be taken to assess needs in relation to the specific problem data. For example: To determine the impact of the property destroyed by the plane crash, would you implement an external needs assessment, an output-related needs assessment, or a product-type needs assessment?

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<table>
<thead>
<tr>
<th>Problem Table</th>
<th>Recommended action (type of gap analysis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data regarding the problem</td>
<td></td>
</tr>
<tr>
<td>1. Impact on inhabitants of property destroyed by plane crash</td>
<td>1.</td>
</tr>
<tr>
<td>2. Contaminated fuel shipments</td>
<td>2.</td>
</tr>
<tr>
<td>3. Workers responsible for loading tankers</td>
<td>3.</td>
</tr>
<tr>
<td>5. Decreased rate of job placement</td>
<td>5.</td>
</tr>
</tbody>
</table>

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References


7. Methods—means are those interventions that might serve to close identified gaps or maintain those results that have been selected for continuation.

8. Evaluation is the determination of “have we accomplished what we set out to accomplish?” Needs assessment in its most basic form determines gaps between “what we accomplished” and what we should accomplish. We compare “what is” (observed results) with “what should be” (standards) and then make judgments based on the importance and size of the discrepancy noted. These judgments provide a basis for selecting gaps to be removed.


10. See checklist in section 10.

**PART II**

1. Impact on inhabitants of property destroyed by plane crash—conduct external needs assessment to determine the impact of delivering contaminated fuel to society.

2. Contaminated fuel shipments—conduct internal needs assessment focusing upon outputs to determine if organizational results are aligned with societal results.

3. Workers responsible for loading tankers—identify input and process gaps to determine possible problems in quality or quantity of workers and loading techniques at the Great Atlantic Fuel Company.

4. Filling fuel containers—identify process gaps to determine possible problems in method used to fill fuel containers.

5. Decreased rate of job placement—conduct external needs assessment to determine the impact of plane crash, and what caused it, on the self-sufficiency of people in the areas surrounding the plane crash site.