

Alternative Approaches and Guidelines for Conducting Needs Assessments

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Abstract: Needs Assessment is a mandated first step in identifying and solving human performance problems in education as well as in business and industry (Guba & Lincoln, 1982; Kaufman, 1982, Rossett, 1982; Witkin, 1984). In education, learner needs are the basis for curriculum decisions (Witkin, 1979). In business/industry, deficiencies in employees' skills, knowledge and attitudes are the basis for training and development interventions (Oppenheimer, 1982). But while the process of needs assessment is basic to the success of that which follows, it is also characterized by great diversity in scope, data collection and analysis techniques, and cost effectiveness.

This paper focuses on a description of three basic approaches to needs assessment, with particular attention given to their usefulness and applicability. Techniques which can be used to collect needs assessment data are described. The approaches outlined in this paper are assessed in terms of their potential utility to users in business and educational settings as measured by their estimated time requirement, accuracy and cost.

WHAT IS NEEDS ASSESSMENT?

Needs Assessment is a process of determining gaps between *current* and *required* (or desired) organizational and/or individual performance (Kaufman & Stone, 1983). In essence, needs assessment attempts to answer two basic questions:

- *Where* are we going? (or what are we to accomplish?); and
- *Why* are we going there? (—and, how far is it from where we are now?)

By answering the first question correctly, we identify our goals and objectives. These goals and objectives, stated in measurable terms, define a target destination at which we aim. The second question, "why are we going there," makes us ascertain our goals and objectives. It assures that there is a valid reason for working toward achieving the specified goals.

ALTERNATIVE NEEDS ASSESSMENT APPROACHES: PURPOSE AND SCOPE

The ultimate purpose of needs- assessment is to ensure that our efforts, time and money

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are spent on programs and interventions which are useful, in that they contribute to improving performance. The scope of needs assessments varies from complete full-fledged approaches to quick-fix status surveys. In full-fledged approaches, we focus on the assessment of present and projected goals, objectives and related performance specifications and accomplishments. In quick-fix status surveys we merely distinguish between *current* expert performers and poor performers; we do not assess performance in relation to future requirements when we conduct a status survey.

Mayer and Kaufman (1985) describe the following three major alternative approaches to needs assessment..

Alternative I: Problem Identification

This approach looks at "what is" versus "what should be" and investigates the variables which may indicate the existence of a performance problem in or for an organization. The problem identification approach is comprehensive and rigorous. It starts with no assumptions, looks at the situation as a whole and goes as far as questioning organizational goals and objectives to identify problems (i.e., gaps between these objectives as stated, and their attainment).

For example, within an industrial setting, the problem identification approach can be used to assess the current versus desired safety record of cars manufactured by "Rapidcar Auto Corporation" (RAC). RAC measures its safety records by the survival rate of car accident victims in which cars from RAC are involved. An analysis of the possible causes for identified gaps between current and required survival rates from car accidents may result in changes to Rapidcar Auto Corporation's goals and objectives (regarding safety records), operational procedures to insure attainment of the goals and objectives, etc.

An example of the Problem Identification alternative to needs assessment in an educational setting would be the identification of the current versus desired number of school graduates who can get and keep jobs. The graduates in question have received their education at "Vocational Education Center ABC." An analysis of the possible causes for the identified gap which impacts graduates of "Vocational Education Center ABC" may result in changes to the Vocational Education Center's goals, objectives, teaching/learning methodologies, etc.

Alternative II: Problem Analysis

This alternative to conducting needs assessment examines mainly the "what should be" aspect and usually involves little questioning of the details of the current situation. The emphasis in this approach is on searching for the causes of a *pre-specified* problem. Problem analysis is often the second phase of the problem identification approach described earlier as alternative I. Problem analysis is a stand-alone approach to needs assessment which is appropriate when there is no information about the existing situation, (i.e., the required performance is currently non-existent) or when such information is irrelevant to the problem under consideration. A typical example is the introduction of a new computer system for use in an organization, when there is an *assumption* of a performance problem associated with the use of the new computer system. The causes for the performance problem could be, for instance, skill/knowledge related, or attitude related.

In analysing performance problems a procedure familiar to educational technologists is *front-end analysis*. This procedure is conducted to determine the nature of, and the causes or remedies for performance problems. The remedies, or solutions may require educational or training interventions, redesigning the environment, or altering the incentive and feedback system in and for an individual or an organization (Harless, 1970).

In a business or industrial setting, we often do *& job-task analysis* as part of the front-end analysis process. The job analysis procedure is used to determine the required ("what should be") tasks to be performed in a given job. A proper job analysis provides an inventory of tasks listed or charted so as to indicate the correct sequence for performing these tasks as well as any interdependencies among them. An instructional analysis is conducted in business and industry *after* the job analysis is completed (if instruction is the appropriate solution for the identified performance gap) to ensure a close relationship between the requirements of one's job and the instructional process.

In educational settings we usually assume that instruction is the correct method for solving performance problems. Furthermore, we treat performance and learning requirements as one and the same. Therefore, in education we usually do not conduct job analyses; after establishing an instructional goal, we proceed directly to conducting an instructional analysis which outlines the subskills required to achieve the instructional goal.

Alternative III: Problem Verification

The third alternative for conducting needs assessment is the *problem verification* alternative, or the "status survey" approach. This approach is often used both in business/industry and in education. In both settings the first step in the assessment procedure is to establish a "standard" or identify a "master performer." The second step is to assess all students' or all employees' performance level and identify the gap between the various current performance levels and the established current "standard" or level of performance of the "master performer." The final step in the assessment process is to establish methods and means to close the identified gaps in performance.

An example of the "status survey" approach in a business setting would be the assessment of needs of insurance claims processing clerks. Jerry, the "master" (or expert) insurance claims clerk correctly processes 50 insurance claims per day. All the other insurance claims clerks process 25-35 claims per day. Methods and means for closing the gap between Jerry and all the other insurance claims clerks must be examined and implemented as necessary. The assumption here is that 50 insurance claims processed per day is the established performance standard. Of course, by the time all clerks can process 50 insurance claims correctly per day, the standard may change to 60 insurance claims and methods/means for meeting the new standard may have to be employed.

In an educational setting, Grade 3 level reading is a standard of reading for all grade 3 students. All students in grade 3 must work on their level of reading to reach the grade 3 standard. If the standard of grade 3 reading changes at some point in the future, then students (and teachers) will have to work at closing this new performance gap.

Thus, the problem verification approach does not get into identifying or analyzing problems but rather focuses on the "what is" aspect of a situation. This approach identifies an acceptable standard of the *current* level of performance as the target (i.e., desired) one and aims all interventions at achieving this current standard. The great pitfall of such an approach is that by the time an intervention is implemented, the identified current standard for performance may be outdated. The advantage, however, is that status surveys do provide a relatively inexpensive way (no fancy analysis techniques are required) to successively approximate an improved level of performance.

DATA COLLECTION RESOURCES AND TECHNIQUES

The completeness of a Needs Assessment approach is a function of comprehensive

investigation of all variables related to identifying, analysing and verifying the problem at hand. To conduct a comprehensive investigation, one may use a variety of data collection resources and techniques. Each of these resources and techniques can be used by itself or as one of several techniques to apply in the needs assessment process. Note that some techniques are more time consuming than others (e.g., individual interviews); some are more costly than others. The data collected could be classified as *soft* or perception data, or as *hard* factual data. The accuracy of obtained information is a function of the type of data collected (e.g., *facts* about company profits and projected, calculated profits or losses tend to be more accurate than individual's *perceptions* of the same). The following are some of the needs assessment data collection techniques one can use, classified as soft or hard data resources.

Soft Data

Literature review. An analysis of related literature in the needs assessment field would include an examination of models, kits and procedures that are relevant to the intended needs assessment study (e.g., Kaufman & Mayer, 1981), as well as materials related to the topic at hand. For example, if a management needs assessment is to be conducted, then literature related to needs assessment as well as literature related to management should be reviewed. It is important to conduct literature reviews to keep up with new developments in the relevant fields.

Lessons from other organizations. This is basically an investigation of similar needs assessments that have been carried out in organizations other than your own. There is no point in reinventing a procedure that another organization has already carried out, and it is important to find out what approaches, methods and procedures have or have not worked for other organizations. Beware, however, of importing a model or method which does not fit your organization and its realities.

Archival review of internal documents. This encompasses a review of all the relevant documentation in your organization that may be related to your needs assessment effort. Data on the results obtained currently as well as the goals and objectives of the organization in terms of the expected results provide valuable information when conducting a needs assessment. Information about the performance appraisal system, job descriptions, budgeting, data on current and forecasted resources as well as results of any organizational climate or attitude surveys are valuable for determining the causes and potential remedies for identified problems. Make certain, however, that these symptoms really relate to documented organizational problems.

Human resources or personnel analysis. This could be part of the archival review of internal documents but may also rely on interviews with staffing and Human Resource personnel to identify the number and type of personnel currently available as well as human resources projections for the future.

Individual interviews. Selective interviewing in the organization is another technique for collecting needs assessment data. Usually it is recommended to interview a representative number of performers, supervisors and peers within the organization or department who are in contact with the group being investigated. Sometimes the interviewing procedure focuses only at the top level of the organization in order to get a view from the top executives, rather than from the performers themselves. Interviews can be used to set the stage for an overall survey to be conducted in an organization or as a follow-up to survey results with the intention of focusing on identifying specifics which survey questionnaires cannot sufficiently identify.

Focus groups. Focus groups are used in structured brain-storming sessions to clarify

results of surveys and to obtain additional information about items which the surveys didn't cover. Participants in focus groups are usually representative of the target audience that responded to the surveys. Sometimes focus groups are the only data collection method used. When that is the case, it is important to make sure that members of the focus groups represent the target audience in the organization accurately.

Surveys. The purpose of a survey is to obtain information from a representative group of performers, clients, peers and supervisors about the current and required levels and aspects of job performance or organizational contributions. Surveys are usually used to collect data from a large number of people and have a relatively short demand on people's time (about 10-30 minutes).

Hard Data

Hard data comes from actual controlled observations of reality. They differ from "soft" data in that actual performance or results are obtained and used to determine gaps between "what is" and "what should be."

Observations. Observing the work done at the actual job site is a technique for generating an accurate task inventory. A potential difficulty with this method is finding an observer skilled enough to accurately describe and explain the observed tasks and their interrelationships, and problems associated with assuming that an existing task is really an important one and that which is being observed is an accurate representation of the actual job.

Performance assessment. Actual work samples are taken, such as production rates and quality control data to determine what is being produced, and the quality of that production. Particularly useful for this is the comparison of measurable objectives with the actual results, such as the number of radios produced and the number of those which passes inspection.

Another type of performance assessment is a test which a learner is given after a course or experience to determine the amount which has been mastered. Still another indicator of performance would be the corporate profit and loss sheet. Performance assessments may be made at every level of organizational activity, from a particular task to the survival of an organization, from production of fenders to the safety of automobiles, from supervisory skills to corporate profit.

SELECTING THE APPROPRIATE NEEDS ASSESSMENT APPROACH

Each of the Needs Assessment alternatives described in this paper has strengths and weaknesses which can be described in terms of three basic variables.

- (1) *Accuracy and Validity:* This variable relates to the quality of results accomplished as measured by the relative adequacy of the collected needs assessment data. Put another way, it is important to question the extent to which we are confident that the collected data accurately describe the real "needs."
- (2) *Time:* This refers to the duration it takes to conduct the needs assessment. Some approaches are very time consuming and therefore very costly. Other approaches are quick, but may still be very costly if the results are not valid.
- (3) *Cost:* The amount of money it would take to complete the needs assessment process as it relates to the value of the obtained information is an important considera-

tion. The estimation of high versus low cost is often a function of the attributed importance or criticality of the assessed needs.

Ideally, the nature of the problem should determine the appropriate needs assessment to use. In reality, however, both in business/industry and in educational settings, compromises have to be made because of varying organizational priorities, limited resources, urgency, budgetary constraints, etc. The selected approach to conducting needs assessment therefore tends to be that which would provide the *most accurate* (and valid) needs assessment information at a *minimal cost* and in the *shortest time* period. Using the accuracy, time and cost criteria, the three alternatives to conducting needs assessments can be compared as follows.

Problem identification. This tends to be the most accurate approach to assessing needs. It is complete, comprehensive and rigorous. If done right, the problem identification approach would provide data about resources, procedures, results and consequences. Accuracy will increase if several data collection techniques (e.g., literature review, archival review, interviews, survey, etc.) are used. The assessment process will vary in time and cost requirement, depending on the nature and scope of the problem at hand. Problems of a large scope usually take longer to solve and are more costly. Time and cost can sometimes be reduced by using only one or two data collection techniques rather than a combination of several.

Problem analysis. This approach tends to be less accurate than the problem identification approach because problem analysis focuses on analysing pre-determined problems without necessarily questioning the *validity* of these problems. In all other respects the problem analysis approach is similar to the problem identification approach. Here too, shortcuts can be taken by limiting the type and number of data collection techniques utilized and thus reducing the time and cost of the process. Such shortcuts, however, may affect the accuracy and validity of the results of the needs assessment process. Decisions regarding the needs assessment action plan and methodology should therefore be carefully examined in light of the relative importance of expected results.

Problem verification (status survey). When a decision is made to select the status survey approach, it is implied that a "quick fix" to a problem is required. This approach tends to be the least accurate of the three needs assessment alternatives and is usually based on individuals' perceptions of a current situation without a careful identification and analysis of future ("what should be") requirements. The time and cost of a status survey vary according to the data collection methods used (e.g., surveys are usually less expensive and less time consuming than one-on-one interviews).

The final decision regarding which needs assessment approach best fits one's requirements is thus a function of a number of factors. Shortcuts and compromises may be taken in using each one of the three alternative needs assessment approaches presented in this paper. One should always consider the scope and relative importance (or criticality) of the problem at hand and ensure that any shortcuts in the methodology which are intended to save time and money do not result in an intolerable compromise in the accuracy and quality of the needs assessment results.

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