Distance-Based Learning / Videoteleconference

Carole Bland, Ph.D. and Wendy VanLoy, Ph.D.

NEEDS ASSESSMENT & ANALYSIS

What is a Needs Assessment?

Needs assessment is the systematic process of gathering information from a variety of sources, and using it to determine if and what instructional solutions will close the gap between what learners currently know or- do, and what you would like them to know or do.

Table 1.

Actual		Optimal
(What learners currently know & do)	**"NEEDS"**	(What you wish learners could know or do)

The process of educational planning can be visualized as being parallel to the process of caring for a patient.

Table 2.

PATIENT CARE	=	**EDUCATIONAL PLANNING**
Diagnosis	=	Needs Assessment
Treatment	=	Teaching/Learning Methods
Follow-up	=	Evaluation

The needs assessment process is like your DIAGNOSIS-gathering information to fully define the patient's problem(s), generate more and more accurate differentials, and come to a final diagnosis. The course, clerkship, conference series or other instructional intervention that you plan and implement is like TREATMENT-what you prescribe for the patient's specific problem. Evaluation of the student learning (patient status) and the curriculum itself (effectiveness of the treatment) is comparable to FOLLOW-UP in the clinical setting.

Why Do a Needs Assessment?

People who put time and effort doing a needs assessment discover that the rest of their curricula seem to 'fall into place' because they truly understand the problem, the situation, the learners and other factors that impact their decisions. The needs assessment process helps you affirm that the problem is an instructional need, not an organizational, motivational, administrative or attitudinal problem effort on the right solution so your valuable time and resources are used efficiently and effectively.

Doing a needs assessment also provides several important benefits to your curriculum development project:

- By involving other people at the start, you can achieve "buy-in," or a sense of ownership of the curriculum
- In a world of limited resources, needs assessment also helps set educational priorities—determining which problems require attention now, and which can wait
- Needs assessment can enhance your credibility

As you ask questions and gather information from people affected by the curriculum, you will be demonstrating the systematic approach you are now taking to address instructional problems and design effective programs.

What kind of information do I get from a needs assessment?

The goal of a needs assessment is to obtain facts, opinions and ideas about:

- learners' current performance and where they perform-ie, classroom, laboratory, preceptor's office, outpatient clinic, hospital ward
- desired performance levels or residents-what learners should be able to do
- causes-what learners and others think is causing problems with performance
- solutions *-what learners and others think might solve the problems
- impressions, reactions, opinions and priorities of learners: reactions to the situation, to the topic and to past training experiences; what they consider to be their most urgent and least important educational needs
- impressions, reactions, opinions and priorities of others who will be involved or somehow affected by the curriculum, such as administrators, faculty, patients, etc.
- what similar activities are going on in other institutions, what works (or doesn't work) in other settings and with other learners

***Important:** The right solutions will not always be education or instructional intervention. A well-done needs assessment will help you discover whether or not a conference series, workshops, course, seminar, clerkship or rotation will help your institution solve the problem.*

Our 4-Step Approach to Needs Assessment

1. **Consider** the context and people affected by the curriculum
2. **Plan** your needs assessment. Decide
   a. what questions to ask
   b. who to ask/what to look at (sources of information)
   c. how to ask them (techniques)
3. **Conduct** your needs assessment
4. **Analyze** and communicate your results

Needs Assessment Step 1: Consider the Context and People Affected

To begin the needs assessment process, begin with your own observations, experiences, instincts and gut feelings about the problem and the situation. You will want to think in terms of the general context of the problem or request for a curriculum, and about the various people who will be affected by the solutions or curriculum you eventually implement.

Table 3. WORKSHOP TASK #2

1. Get into mentor groups and form pairs
2. Each person should present perceptions of the context and people involved in the curriculum
3. The listener should provide feedback to the presenter on the following:
   - Are you convinced there is a problem?
   - Can you think of other people who may be supportive, or not? (potential political bombshells)
4. Pairs will have ____ minutes to complete this exercise

CONTEXT AND PEOPLE WORKSHEET

A. Context

1. Describe in general the environment in which this project occurs.
2. Describe the problem from your own perspective.
3 . Why is this a problem?
4. In the overall scheme of things, how big of a

problem is this? (In other words, what could happen if this problem is not addressed?)

5. Will your project be a solution to a performance problem? ...or a new subject or innovation that is being introduced?
6. How much support does this entire project have? Does the needs assessment also have support?
7. How much time do you have?

B. People Affected

1. Who is affected by the problem?
2. Who may be affected by or involved in the potetial solution(s). Note below any potential stakeholders or your broader audience.
3. Who wants this problem solved (or this new subject introduces)? Why?
4. Who doesn't? Is there anyone who prefers for things to stay the same? Why?
5. If it's a problem, who might fear or attempt to block your efforts to find the cause(s) of the problem?
6. If it is a new subject or innovation, who might not support the changes that will be required?
7. Who must be kept abreast of your findings? Who else might want to know? Who should not know-at least at first?

Now that you have completed the Step #1 of your needs assessment, you are probably beginning to get an idea of some things you will want to find out or verify before you develop your curriculum. As you begin to conduct your needs assessment and discover how the situation looks from other people's perspectives, you may find that your impressions will change. But for now, what you've written on the Context and People Worksheet will serve as the basis for your next step—planning the needs assessment.

NEEDS ASSESSMENT SL W 2: PLAN YOUR NEEDS ASSESSMENT

Step 2A. Questions

Begin planning your needs assessment by considering what questions you want to ask. Based on Rossett's work, needs assessment questions seem to fit well into six categories:

a. What is the current performance of your learners? *(actuals)*
b. What level of performance do we want? *(optimals)*
c. What are the causes of the problem?
d. What are potential solutions to the problem?
e. What are the impressions, opinions, reactions and priorities of people affected by the curriculum? Does demography, position or situation influence the respondents' answers?

The following list of sample questions is intended to guide you as you consider questions for your own needs assessment.

SAMPLE NEEDS ASSESSMENT QUESTIONS

a. What is the current performance of your learners? *(actuals)*

Find proof of what the students/residents/ learners know and can do.

(This is the only type of needs assessment question where opinions and impressions don't count. Use this information to determine whether or not potential learners know what they should know and whether or not learners are truthful)

Can learners do what they say they can do?

Is there a problem? What is going on that is a problem?

What errors are occurring?

What are some problems with _____?

What areas of need improvement?

Where should attention be focused during the needs assessment?

Who thinks there are problems?

Who doubts there are problems?

b. What level of performance do we want? *(optimals)*

What ought to be going on?

What are the desired outcomes or results?

What standards should the learners be meeting?

What constitutes a good _____?

What is good about _____?

What changes in technology will demand new knowledge, skills or attitudes?

Who is committed to making the optimal occur? *(i.e., making changes or implementing new programs)*

What community expectations must be met?

If instruction is the best solution to the problem, where should attention be focused during instruction?

c. What are the causes of the problem?

What is creating or contributing to the problem or discrepancy?

What do sources think is causing the problem?

Of the possible causes of problems, what or which is actually causing this problem?

What are some problems with _____?

What are the incentives for doing it right (or the "new" way)?

What are the incentives for doing it wrong (or the "old" way)?

d. What are potential solutions to the problem?

If the learners already know the knowledge or skills, what can be done to solicit or improve their perormance?

If the best solution is instruction, explore the following issues:

-What will they do and what won't they do to learn the desired knowledge or skills?

-What teaching strategies might work best with this group of learners?

-What teaching strategies should be avoided with the group of learners?

e. What are the feelings (impressions, opinions, reactions, and priorities) of people affected by the curriculum?

Explore reactions to the topic (skills, body of knowledge, responsibility, task).

Check for reactions to *training* related to the topic (past, present, potential).

How big a *priority* is this to all of your sources?

-Check perceptions of its priority in relation to other topics.

-Check perceptions of priority of sub-topics.

Determine *confidence* related to the topic.

-Do trainees feel they are able to learn the subject or skill(s)?

-Do faculty feel competent to model the necessary skills and/or attitudes?

What are the incentives for doing it right (or the "new" way)?

What are the incentives for doing it wrong (or the "old" way)?

f. Does demography, position or situation influence the respondents' answers?

Be sure to only ask demographic information that is relevant to your needs assessment purposes.

Who are the respondents?

Year in program?

Expert in the subject matter?

Faculty?

Graduate?

Administrative responsibility

WORKSHOP TASK #3

1. Look through the Sample Questions and draft questions related to your own problem in each of the six areas on the Needs Assessment Planning Worksheet
2. Return to your mentor group pairs.
3. Each person should present his/her questions.
4. The listener should provide feedback to the client on the following:
   - Are each of the six areas addressed?
   - Can you suggest additional questions, or alternate ways of wording the questions? (to get at the 'heart' of the issue without suggesting a specific type of response).
5. You will have ____ minutes to complete this exercise.

Needs Assessment Planning Worksheet

Questions	Sources	Technique(s)
(1) Current Performance		
(2) Desired Performance		

Needs Assessment Planning Worksheet

Questions	Sources	Technique(s)
(3) Causes of Gap/Problem		
(4) Possible Solutions		

Needs Assessment Planning Worksheet

Questions	Sources	Technique(s)
(5) Feelings (impressions, opinions, priorities)		
(6) Demographic considerations		

Step 2B. Sources of Information

There are two different kinds of sources: people and documentation. You will want to consider using both in your needs assessment.

People

To determine who can best provide you information, the key questions to ask yourself are:

- Who is affected by the problem?
- Who may be affected or involved in the potential solution(s)?

The people who are the most credible sources of information are close to the problem. For this reason some or all of the folks you listed on your Context and People Worksheet will be logical sources.

People who can provide answers to your questions may be any of the following:

- learners (students, residents, faculty, program participants)
- staff/colleagues involved in program
- administrators (program or institution leaders to whom you must respond
- volunteer preceptors
- sub-specialist consultants
- attending physicians
- other faculty
- nursing and other clinical/hospital staff
- community or agency representatives
- recent graduates (especially for asking about real world performance)
- current or future employers of learners
- current or future patients of learners
- others?

Think in terms of the accessibility of your people sources, i.e., when to reach them. the best way to approach them; and whether or not you will be able to go back to them again as you learn more and generate more questions.

The number of individuals to involve in the needs assessment depends on two things: (1) whether you can get the information you seek from in-depth contact with small numbers; and (2) how much information and confirmation you need to feel confident and to convince others.

Documentation

Consider the following materials as sources of information for your needs assessment:

- What **records** (e.g., previous faculty, learner or rotation/clerkship evaluations) might provide useful information? Will they be accessible?
- Are there **standards or guidelines** to be met?
- What help is available from the boards or orga nizations who set those standards?
- What **literature** will you examine?
- Are there **other programs** where this problem or subject has been addressed successfully?
- Who could you talk to about their experience?

Step 2C. Techniques

A needs assessment may involve a number of questioning techniques. Some methods are more useful, efficient and effective than others, depending on your questions.

Nine possible needs assessment techniques will be described next, with suggestions about advantages and limitations to consider.

a. Analyze Existing Data

b. Observe Learner Performance

c. Do Structured Interviews (in person or by telephone)

d. Review Literature

e. Ask the Experts

f. Observe Excellent Performers

g. Do Written Surveys

h. Conduct Group Meetings

i. Guess at Needs, Causes and Solutions

POSSIBLE NEEDS ASSESSMENT TECHNIQUES

Technique	Advantages	Limitations
a. Analyze Existing Data		
Strategies here include reviewing pre-instruction or post-instruction participant surveys, looking at past records of similar subjects to the same type of learners, looking at Board scores or results of other learner examinations in related areas, or doing chart reviews to see if learners have documented clinical activities. **Method appropriate for determining CURRENT PERFORMANCE.**	If existing data are available, it can save you time by providing some form of objective information that can be easy to report. This kind of data are usually easily understood by administrators, other faculty and learners. Test results are useful as diagnostic tools to identify specific areas of deficiencies, and can be helpful in determining which potential learners can most profitably be trained.	This kind of information may not be valid for a specific group of learners. These kinds of records may not show causes of problems or potential solutions. They also may not reflect current changes or new needs in the medical professions or health care environment. Tests validated for many specific situations are often not available, and tests validated elsewhere may not be valid in new situations. Test results give clues, but are not conclusive; they are only second-best evidence of real performance.
b. Observe Learner Performance		
The strategy is to watch potential learners in a real situation, take notes and analyze later for problem areas. It is usually most effective to develop a checklist of ideal procedures, techniques or behaviors prior to observation, then see how many items are met. **Method appropriate for determining CURRENT PERFORMANCE**	This is the most direct form of needs assessment. Results are systematic, reliable, valid and believable. Existing norms **(actual** performance) can be identified. The effectiveness of current training may be observed, and real examples from the observations can be used in teaching new skills or content. In creating the observation checklist, this process also breaks down procedures, techniques and behaviors into manageable segments for teaching and evaluation purposes.	Time consuming, so you'll be able to observe only a limited sample. Can be obtrusive – your presence may affect learners' performance. Using a checklist may limit your observations to a preconceived set of problems.
c. Do Structured Interviews (in person or by telephone)		
Prepare a list of questions to ask a sample of your learners. This kind of interview can be done by telephone or in person. **Method appropriate for determining CURRENT PERFORMANCE, CAUSES, SOLUTIONS and FEELINGS, PRIORITIES.**	This is the best way to find out about peoples' perceptions of their performance needs, priorities and learning preferences in their own words. Causes and possible solutions are also easy to obtain. It is a systematic and valid approach that can also allow for follow-up calls to ask other questions or verify answers as you learn more.	Can be time-consuming, so you'll be able to reach relatively few people. Your sample size will determine how generalizable your data are. Participants may feel they are "on-the-spot" and may not feel free to tell the truth as they perceive it. Learners who have extreme learning needs in a given area may not be able to articulate those needs.

Technique	Advantages	Limitations
d. Review Literature		
For your curriculum, two types of literature must be explored. The first type is literature related to trends, issues, developments, new procedures and methods of practice to infer learning needs, causes and solutions, as well as to prioritize content in the curriculum. The second type of literature is equally important. It involves searching and analyzing literature related to development and evaluation of other curricula or programs in your content area and/or with similar kinds of learners. **Method appropriate for determining DESIRED PERFORMANCE and SOLUTIONS.**	This is an easy way to summarize new content or skills needed by practicing physicians. At the needs assessment or pre-planning stage of developing medical education programs, subject matter literature review is most valuable in determining. how to phrase needs assessment questions to be asked of potential learners and others. The medical education literature can keep you from "reinventing the wheel," by helping you find out about existing programs or see the results of strategies you may or may not choose to try in your own program.	Journals, research reports or books may not reflect current situations or allow for recent changes, and they may not be directly related to the topic at hand. Published literature on the subject matter is usually not specific to the potential audience of educational programs. Norms at other locations may be different. Published literature on other curricula is not necessarily specific to your learners or situation. It can also be difficult to find any literature specific to curriculum development or programs related to your subject area.
e. Ask the Experts		
This is another technique for both subject matter analysis and learning about similar programs in other settings. Call or correspond with subject matter experts, i.e., people who currently practice, do research and/or teaching in your field, and are recognized in the literature or by peers as experts. Or contact faculty in other institutions who have developed and implemented curricula in your content area with similar audiences. Can also mean attending conferences or other professional meetings where these people might be found. **Method appropriate for determining DESIRED PERFORMANCE and SOLUTIONS.**	This is a way to track down "fugitive" literature, such as unpublished curricula or teaching materials available only through the developers or sponsoring institutions.	Norms at other locations may be different. Also, an expert in the content may not be able to sort out the essentials from content that is not so important to your learners' immediate needs.

Technique	Advantages	Limitations
f. Observe Excellent Performers		
Find people who are respected as the top performers in your area of interest. This is similar to a formal process called Critical Incident Technique; the goal is to identify events that result in especially good or bad outcomes. **Method appropriate for determining DESIRED PERFORMANCE.**	Since many excellent performers cannot explain exactly how they do what they do, it's important to watch them as they perform and make notes about their technique or steps. You may also ask the performer(s) to discuss their criteria for "good" and "bad" performances or products.	Since many excellent performers cannot say exactly what or how they do what they do, it may be difficult to see what it is that makes their methods successful. Excellent performers may also be able to take shortcuts that you aren't aware of and they might not describe. Novices may not have the judgment or ability to take a similar shortcut.
g. Do Written Surveys		
Print a survey form and send to a sample or all of the audience. **Method appropriate for determining CAUSES, SOLUTIONS, and FEELINGS/PRIORITIES.**	Can obtain a systematic and large sample of the population to be served by your program. Information can easily be summarized. If anonymous, participants can express themselves without fear. Can be conducted by others.	Requires careful phrasing of the questions, and process should include a pilot with sample of audience. Information that is collected is limited to questions on the survey, so follow-up to obtain further verification can be difficult. Non-respondents may be different from respondents (and may well be the learners with the most learning needs).
h. Conduct Group Meetings		
Bring together groups of experts in the field, potential learners and/or a "task force" of community members of faculty who have different perspectives on the problem. Ask needs assessment questions in an open-ended way and facilitate discussion among group members. Record their ideas. Method appropriate for determining **DESIRED PERFORMANCE, CAUSES, SOLUTIONS and FEELINGS/ PRIORITIES.**	Same as for individual interviews, plus permits synthesis of different viewpoints. Can promote general understanding and agreement, and build support for needed training. The group meeting is, in itself, good training.	This method is time-consuming and initially expensive. Many physicians may feel too busy to participate. The results may be difficult to quantify.
i. Guess at Needs, Causes and Solutions		
The strategy here is to simply jot down what you believe to be the needs of the learners. Use your own informal observations or reports of others to verify the needs you have stated. **Method can be used for ALL needs assessment questions.**	Guessing can be the quickest and easiest way to complete a needs assessment. Guessing may be sufficient for your topic - you may know better than anyone else what the learners need to learn, or at least be able to articulate those needs. You may also have the administrative authority and/ or political clout to implement any educational program you want.	Your experiences may not be representative of the entire group, or may miss the needs of a portion of the audience. Your conclusions may be wrong. This method also offers no data to back up your planning decisions, so your program may lack credibility among the potential learners.

In addition to your specific questions, some use factors should be considered as you determine which techniques will work best for your needs assessment. These include:

- anonymity of sources
- cost
- opportunity to ask follow-up questions
- response rate
- ease of analysis
- risk *(Techniques such as group meetings and surveys of large numbers of people can be risky. With either technique, you can expose yourself to a good deal of criticism. In a group meeting, it's possible that different parties may not be able to agree on anything— so whatever you do with the information may antagonize one side or the other.)*

Never use just one information gathering technique. ***TRY TWO!!*** Another suggestion is that you plan and use **stages.** For example, if you have not yet studied or practiced in the field, your literature review will be essential to help you state your questions correctly and logically. Or, in considering your sources, perhaps you'll want to collect ('be armed with") opinions from several groups (e.g., primary care faculty and graduates) before you approach certain individuals (e.g., sub-specialist faculty).

Finally, making repeated contact with the same sources through a variety of techniques will bring you closer and closer to the heart of the matter.

WORKSHOP TASK #4

1. First work individually to complete the sources and techniques columns on the **Needs Assessment Planning Worksheet:**
    - Look through the suggestions and questions about possible sources of information. Make notes in the Sources column on the Needs Assessment Planning Worksheet about where you could look for answers to the questions.
    - Now took at the questions and sources you've recorded on the Needs Assessment Planning Worksheet. Determine and write in the last column what might be the best techniques) to use to gather information from the sources.
2. Return to your mentor group pairs.
3. Each person should present his/her sources and techniques.
4. The listener should provide feedback to the presenter according to the following criteria.

Regarding sources...

- Are the sources varied (people and documents, a variety of people)
- Are the sources credible?
- Is there an adequate number of sources?

Regarding techniques....

- Do the techniques match the questions being asked?
- Are at least two different techniques used?
- Are the techniques likely to be effective and efficient for the given situation? (anonymity, cost, opportunity to ask follow-up questions, response rate, ease of analysis, risk)

5. You will have ___ minutes to complete this exercise.

NEEDS ASSESSMENT STEP 3: CONDUCT NEEDS ASSESSMENT

3A. Implement Plan

Do whatever it takes *to get the* information you need to form a *basis for the* decisions you'll *have to* make as *you develop* and implement your curriculum.

Follow your plan, but remember—questions and techniques may have to change as you learn more and more; you may deviate from your original plan. Like the detective Columbo, you may want to follow up on ideas or go back to sources to get their reactions to ideas you've heard from other sources.

Start early! Everything *will* take more time than you think.

Faculty have discovered that the most significant hindrances to successfully conduct their needs assessments were related to time. Many of the tasks consumed more of their own time than they had expected. They were surprised at how long it took to set up appointments for interviews, or draft and distribute questionnaires. In addition, they described many types of delay that were beyond their control. People didn't hand in questionnaires by the due date, didn't return phone calls promptly, and postponed meetings. Many curriculum developers in hindsight said they wished they hadn't waited so long to begin the needs assessment.

3B. Handling the Information

The following tips for collecting and compiling needs assessment information are suggestions from faculty who have used the various techniques:

- **Keep field notes—**or a journal of your findings, impressions and ideas. By completing the Context and People Worksheet, you have already begun to record your field notes. Other findings to record this way would be the ideas and responses you get from experts in the field or representatives from other curricula, or your own thoughts as you hear various perspectives on the problem.
- **Cluster responses by demography.** In order to spot trends, you may wish to compile information (e.g., test scores, survey responses) by who the respondents are (e.g., PGY 2's, chief residents graduates of program, clinical faculty, etc.).
- **Compile ratings on checklists** used for observing learner performance.
- **Record observations of excellent performers** based on the steps in their procedures, as well as descriptions of their outcomes or products.
- **Review literature findings** based upon participants, content, process and outcomes.
- **Use flip chart sheets to record responses** as you facilitate group meetings. This allows participants to see and verify understanding of their ideas. Collect the flip chart sheets and record/analyze soon after the meeting(s). It may be more effective to audiotape the discussions. Listen and transcribe them later and then examine for general and specific responses and trends. If you or your sources (meeting participants) are uncomfortable with a tape recorder, just use the flip charts.
- **Use techniques to enhance the reliability and validity of the data.** Pay attention to <u>how</u> you collect information. Are you expecting learners (whom you will be soon grading) to give you honest feedback when they can't respond anonymously? If you get only a

20% response rate on your survey, what might the opinions of the non-respondents the answer you're looking for? A number of these issues will be addressed in the survey workshop.

NEEDS ASSESSMENT STEP 4: ANALYZE AND COMMUNICATE YOUR RESULTS

4A. Analysis

To draw conclusions from your needs assessment, look at the information you've gathered. Then answer the questions and notes for yourself on the following Needs Analysis Worksheet.

Needs Analysis Worksheet

1. What trends do you see in the responses you have gotten from various sources?
   - Are there similarities in responses, faculty, administrative, others? What about data collected from documents?
   - Are there discrepancies in responses of the various types of people or the data collected from documents?
   - Do the differences break down according to the technique used? If so, which appears more reliable?

2. What is the gap between your learner's cur rent and desired performance?

3. Are any of the following conditions present?
   - problems with selection of learners
   - problems with motivation
   - problems with job design
   - problems with organization's policies or procedures
   - problems with the environment
   - lack of a job aid

If these conditions are causing the problem or the needs/gap you have defined, STOP NOW! These kinds of issues cannot be addressed by education. Developing a curriculum will only waste your time and energy, as well as the institution's and/or the community's resources.

4. What have your learned about the following areas that will be important to consider as you make decisions regarding the curriculum?
   - **Participants** (What do you know about the learners, faculty, and others who are affected by the curriculum?)
   - **Content** (What will impact the relevance, organization and timeliness of the subject matter?)
   - **Process** (What have you learned that will affect the instructional strategies you select? What resources are available and what must you do to obtain, use and/or benefit from them?)
   - **Outcomes** (What have you learned that will impact evaluation of the learners and the curriculum? What will be considered as measures of success?)

4B. Communicate Results

There are some important reasons for communicating results of your needs assessment.

- To provide information to those who need to know about what you've found out about current performance, desired performance, causes, solutions and feelings/priorities.
- To get support for your effort.
- To get additional information or to check out a finding.
- To create a history of your needs assessment effort.

Types of communication can be considered on a continuum, from informal to formal (e.g., com-

ment in a conversation, 5-minute briefing during the regular faculty meeting, or a short memo) to formal (a presentation or written report). The nature and magnitude of your communications should match your goals in developing the curriculum, the expectations of your receivers, and your resources, including time.

When you communicate your needs assessment results, you should answer some typical questions:

- Why did you do this needs assessment?
- What questions did you ask?
- Who were your sources? (Who did you ask? What documents did you look at?)
- How did you gather the information?
- What did you find out?
- What does it mean for development of the curriculum? Consider participants, content, process and outcomes. In other words, how will you use the information you obtained to "fill the gap" between current and desired performance?

Formal reporting is a requirement for fellows doing curriculum development projects in the Primary Care Faculty Development Fellowship at Michigan State University. You are being asked to prepare a written report on your needs assessment and literature review, and give a short presentation to the Major Project Mentor Group. See the Needs Assessment and Literature Review Assignment for details.

NEEDS ASSESSMENT AND ANALYSIS

References

Anderson, William A. and Henry, Rebecca C. Needs Assessment Strategies for Workshop Planning. **Journal of Instructional Development,** 1980.

Benjamin, Steve. A Closer Look at Needs Analysis and Needs Assessment. **Performance & Instruction: 28,** 1989. pp. 12-15.

Hudzik, John K. et al. **Judicial Education Needs Assessment and program evaluation.** East Lansing, MI: The Judicial Education Reference, Information and Technical Transfer Project, 1991.

Knowles, Malcolm S. **The Modern Practice of Adult Education: From Pedagogy to Andragogy.** Chicago: Follett Publishing Co., 1980.

Knox, Alan B. **Helping Adults Learn: A Guide to Planning. Implementing. and Conducting Programs.** San Francisco: Jossey-Bass Inc., Publishers, 1986.

Mager, Robert and Pipe, Peter. **Analyzing Performance Problems or 'You Really Oughta Wanna.'** Belmont, CA: Fearon Publishers, 1970.

Mager, Robert. (1988) **Making Instruction Work, or Skillbloomers. Belmont, CA: David S. Lake Publishers, 1988.**

Rossett, Allison. **Training Needs Assessment.** Englewood Cliffs, NJ: Educational Technology Publications, Inc., 1987.

Zemke, Ron & Kramlinger, Thomas. **Figuring Things Out: A trainer's guide to needs and task analysis.** Reading, Mass: Addison Wesley Publishing Company, Inc., 1982.

EIGHT-STEP MODEL FOR CONDUCTING NEEDS ASSESSMENT

1. **Determine purpose and scope of assessment:**
   Why are you doing needs assessment? Is it to ...
   - Provide more information on the extent and nature of a new problem?
   - Help you decide whether to change or

terminate an existing faculty development approaches?

- Gather data to help you plan a new program? Identify appropriate curriculum content, select among alternate delivery strategies, refine your instructional strategies?
- Serve as a baseline for program evaluation?

2. Identify likely targets of development:

Who needs to be involved as clients / learners?

- Organizational leaders/administrators
- Senior faculty
- Junior faculty
- Community faculty

3. Identify, which questions need to be answered, and their priority:

What are you uncertain about? What do you want to learn about faculty, their work environments, or organization's capacities that you don't already know?

- What prevents faculty members from succeeding or thriving, or performing their best?
- How proficient are current faculty in teaching students / residents in a variety of clinical settings?
- What should future faculty be able to know and do in order to ensure the survival of this institution in a managed care environment?
- What motivates community faculty members to precept? What complicates their task unnecessarily?
- What training formats / delivery mechanisms are most attractive to faculty? Who are they most likely to listen to, and under what circumstances?

4. Identify sources of information/evidence needed to answer the questions:

How can you answer these questions? What information would reduce your uncertainty?

- **Existing data** (faculty performance ratings, indices of faculty turnover, student scores on OSCES, performance reviews, faculty vita, chart reviews, financial productivity statements)
- **Client learners:** Faculty
- **Expert Opinion:** Scholars, professional consultants, leaders in the field, the research literature, master teachers/trainers
- **Decision makers:** Organizational leaders/ chairs/administrators
- **Observer:** Clinic staff, volunteers
- **Consumers:** Students/residents, patients

5. Determine most effective and efficient ways to collect new data, given time, cost, and other resources:

What approaches and tools can be found/ adapted/ created to collect this information?

- Surveys (mailed, telephone, e-mail)
- Structured group feedback (community forum, focus group, nominal group process)
- Individual interviews (selected key informants, average/typical members)

6. Create an implementation plan for the needs assessment, along with accompanying tools:

Who will do what, when, how?

- Timeline
- Data collection tools (find/develop; pilot, revise)
- Data analysis plans
- Contemplate in advance how results will be used

7. Answer the initial questions, using the information you have:

- Collect new and existing data
- Analyze the new data
- Synthesize all of the useable information gained from the different sources
- Share the results with others involved to gather their perspectives on the meaning of the data and their recommendations for next steps

8. Given the results, state what implications they have for a faculty development program:

- To what extent is this an instructional problem? To what extent is this an organizational problem?
- Of the instructional solutions available, which are most amenable to organizations, most attractive to faculty, most congruent with your own expertise or capacities to address?
- Of the instructional solutions available, how can they be structured and delivered best?
- Of the non-instructional solutions, what recommendations can be delivered by whom, to whom?

Sources of Influence on Faculty Development

Faculty

- Faculty can tell us what they want or need.
- Faculty can demonstrate what they can do, and not do.
- Faculty can tell us about the work environment, their motivations, attitudes, incentives.
- Faculty can tell us about their preferred modes for learning, how they learn best, barriers to learning, value they place on learning.

Experts/ Literature

- Scholars / researchers tells us what competencies are related to successful performance in job X.
- Content experts perform a rational analysis of what is required to do certain jobs well - i.e., create a hierarchical layering of knowledge, skills
- Empirical findings of what knowledge/attitudes/ skills and other behaviors correlate with objective indicators of successful performance

Administrators/ Decision Makers (Organizations)

- Administrators tell us what job tasks ("mentor five students a week") and job outcomes ("produce well trained students") they want faculty to perform
- The organization states what outputs the system rewards
- The organization's total need for certain types of faculty (e.g., community-based vs. academic-based), to perform certain jobs (research, administration), under certain conditions (% time), sets certain standards and directions

Consumers

- Medical students and residents (the consumers of their faculty's teaching) provide feedback on faculty instruction and the teaching/ learning experience
- Patients can provide feedback on their clinical satisfaction during a teaching encounter

Direct Observation of Real Life Performance

- Observation of physician faculty on the job by either a casual or trained observer can lead to a clearer analysis of what's required to do the job, as well as specific feedback for a particular individual (observers: peer review, other staff, volunteers)

- Observation of what new vs. experienced faculty do under different circumstances tells you more about what the typical novice has yet to master (and therefore what needs to be taught)

THE DISCREPANCY MODEL

A Traditional Educational Approach to Needs-Assessment Used in Developing Curriculum

1. **Formulate a Set of Tentative Goal Statements.**
   - Goal statements are often based on conventional wisdom concerning the important outcomes of education/professional development
   - Goal statements are translated into "learner outcomes" (also called meaning that statements explain what should faculty know, feel, believe and do as a result of education *(knowledge, attitudes, behaviors)*)

2. Assign Priority Levels to Goal Areas

- Rank goals, using multiple raters/ sources of preference
- Augment goals (seek suggestions, additions from raters)

3. Determine the Acceptability of Learner Performance in Each of the Preferred Goal Areas

(This step is done through some form of testing or assessment of learners)

- Subjective assessment strategies include asking learners to self-report their knowledge, skills, and attitudes; soliciting the opinions of key leaders on learners' skills; collecting the observations of previous students/ teachers
- Objective assessment strategies include testing learners directly through a paper and pencil exam, or structuring a standardized assessment procedure performed by a neutral third party (e.g., peer observation and rating on criteria)
- In this step, it's important that the measures are congruent with the goals
- The same measures can be administered at the end of the program, to form a pre- post evaluation design
- To interpret the results of the test, the planners have to set standards/ criteria for which answers/ scores are "good," "fair," "poor," etc., or use a normative grading scale
- If learners' performance is less than acceptable, a need is indicated
- Planners then examine the data for patterns, i.e., looking for the extent of variability (e.g., among learners, or across clinic sites; percent of learners falling below criterion level on each test item or area)
- Those items / topics showing the widest gap indicate greatest priority for an individual
- Those items / topics showing the highest frequency of sub-par performance suggest need for department-wide training
- Sub-par performance on extremely important competencies represents areas of greatest need

4. Translate High Priority Goals into Plans

Program planning then focuses on the preferred goals that have evidence of greatest need. Depending on the circumstances, planners/ faculty developers use the results of needs assessment to:

- **Who:** Determine which individuals (or which groups of people, or which sites) might require or benefit from development in specific areas (assume individualized instruction or mentoring is possible).
- **What:** Determine how many topics to cover (skills to train), and how much time to spend teaching and reinforcing these skills.
- **How:** Determine whether instruction can be delivered to the whole group (based on indi-

viduals' shared needs and circumstances relating to learners' locations and availability) vs. segmented for different target groups (e.g., offered in separate tracks, or break-out sessions).

- **Best Methods:** Consider learners' learning styles and preferred ways to acquire knowledge and skills, along with known ways to best teach certain skills.

5. Select learning formats, activities

This brings us to the end of needs assessment and the beginning of actual program design, which is another topic, and will be the focus of the Models That Work Conference in December.

*Acknowledgement: These **steps** are based on those briefly outlined in Curriculum: A Comprehensive Introduction, by John D. McNeil, Little, Brown, and Company, 1997, pages 74-78.*

LIST OF HELPFUL REFERENCES

Bland, Carole J., Schmitz, Constance C., Stritter, Frank T., Henry, Rebecca C. & Aluise, John J. (1990). *Successful Faculty in Academic Medicine. Essential Skills and How to Acquire Them.* New York: Springer Publishing Company.

Branch, William T., Kroenke, Kurt, Levinson, Wendy (Eds.). (1997). The clinician- educator: Resurgence of a tradition [Supplementary issue]. *Journal of General Internal Medicine, 12 (Suppl. 2).*

McNeil, John D. (1977). *Curriculum: A Comprehensive Introduction.* Boston, N4A: Little, Brown, and Company.

McKillip, Jack. (I 987). Need Analysis: *Tools for the Human Services and Education.* Applied Social Research Methods Series, Volume IO. Thousand Oaks, CA: Sage Publications.

Patton, Michael Quinn. (I *982). Practical Evaluation.* Thousand Oaks, CA: Sage Publications, Inc.

Rossi, P. H. & Freeman, H. E. (1993). *Evaluation: A Systematic,Approach.* Newbury Park: Sage Publications, Inc. (see especially chapter 2, "Diagnostic Procedures.")

Stufflebeam, D. L. (I 993). The CIPP model for program evaluation. In G. F. Madaus, M. Scriven, & D. L. Stufflebeam (Eds.), *Evaluation Models.* Boston: Kluwer- Nijhoff.

Weiss, Barry D. (Ed.) (1997). Dedicated issue on faculty development [Special issue] *Family Medicine, 29(4).*

Worthen, B. R. & Sanders, J. R.. (1997). *Educational Evaluation: A1ternative Approaches and Practical Guidelines.* New York, NY: Longman Inc.