

Module 3: Analysis (P1: Needs Analysis)



This document contains the content from the interactive instructional unit for the module.

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Introduction



According to the principals of instructional design (ISD), before you create an instructional product, you need to analyze. This may include a needs analysis, a task analysis, a learner analysis, and a context analysis (i.e. constraints, delivery options, etc). Through analysis phase, you, as an instructional designer or educator, decide what is to be learned and identify the instructional goals.

Analysis will be the focus of the three instructional units in this module. As there are multiple approaches to ISD, there are multiple approaches to analysis. A designer may use one or many of them. For the purpose of this course, we will primarily use tenets of analyses suggested by Morrison, Ross, and Kemp (2004) and Dick, Carey, and Carey (2005). Additional information about analysis from your textbooks and your own personal research also needs to be considered.

In this instructional unit, you will learn about needs analysis and then apply what you know to your ISD project.

Objectives

By the end of this instructional unit, you should be able to:

Unit Objectives:

- Define a needs analysis
- Identify the processes of a needs analysis
- Describe how a needs analysis can be used to identify instructional goals
- Create a goal statement for a distance education professionally developed lesson or workshop or unit.



By the end of this unit, what would you like to learn? Write your personal objectives.

Personal Objectives:

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Introduction to Needs Analysis

ISD usually begins with a purpose, and the purpose is usually directed toward bringing about change- a change in attitude, skill, or knowledge. For example, a student may need knowledge in a certain area to pursue a career or a teacher may need to learn technology skills to increase technological usage in his or her classroom.

The instructional designer (or educator) needs to determine exactly what type of change needs to occur. According to Morrison, Ross, and Kemp (2004), “The instructional design process begins with the identification of a problem or need” (p.31) via a needs analysis. A needs analysis consists of gathering information via interviews, observations, and document review to determine the core problem or need, and, ultimately to identify the goals for an instructional project. The analysis may be formal or informal based upon the information that they designer has about the problem.

Before instructional goals can be developed, the need or problem needs to be identified...”the designer attempts to identify the causes of the problem, and then identifies an array of solutions that could be implemented to solve the problem. Seldom is instruction the single answer to the problem. Usually a combination of changes is required to solve the problem effectively.” - Morrison, Ross, & Kemp, 2004, p.18

Conducting a Needs Analysis: Morrison, Ross, & Kemp

To analyze needs, Morrison, Ross, and Kemp (2004) suggest the instructional designer conducts a formal needs assessment for three primary reasons:

- To identify the needs relevant to a particular task (i.e. What are the problems affecting the completion of the task?)
- To identify instructional goals
- To set priorities in selection of instruction and intervention
- To provide baseline data to assess effectiveness of instruction or intervention

A needs assessment is conducted in 4 stages:

1. **Planning** - In the planning phase, the instructional designer (ID) defines the audience, the type of data that needs to be collected, and how the data will be collected. The ID decides if he or she will collect data from the entire audience or a portion of the audience and develops the data collection tool (i.e. interview questions, questionnaire, focus-group interview, etc). (Note: Sometimes it is impossible to collect data from the entire audience and a smaller sample need to be selected. Statistical

procedures and formulas are available to help determine a proper sample size; this is beyond the scope of this course).

2. **Collecting data** – In this phase, the ID collects the data via the planned method. The ID may schedule interview times or send surveys with instructions on how to return them.
3. **Analyzing the data** - In this phase, the ID employs statistical analysis procedures and analyzes the data. The ID also prioritizes the needs “on the basis of economic value (e.g., cost value to the company, impact (e.g., number of people affected), a ranking scale, frequency of identification or timeliness” (p.38). Morrison, Kemp, and Ross suggest using the [Delphi method](#) for prioritizing.
4. **Compiling a report** – In the final phase, the ID completes a report with four sections: the purpose, the process (e.g., how the assessment was carried out and who was involved), the results (quantitative charts and graphs and qualitative narrative), and recommendations including the identification of goals.



Think About It Activity 3.1

You are an educational technology director at a elementary school and are assisting in the development of the district technology plan. You want to determine the type of training that the teachers need to more effectively implement technology so that you can recommend and plan the yearly professional development. How might you plan a needs assessment and collect the data? Take a moment

Instructor's solution: You decide that you want all of the teachers' input, so you create a web-based survey asking teachers about their needs for technology skills and knowledge development. Since you have a large sample size, you decide to limit the survey to primarily multiple choice questions. You also plans to conduct a focus group with the school administrators. You identify a good time and place as well as develop interview questions. When collecting data, you send an e-mail and follow-up e-mails to the teachers to complete the online survey. You call the administrators to set up the time and place to conduct the focus group and conduct it.

Needs Analysis: Type of Need

The type of need identified in a needs analysis may be one of six types of educational needs (Burton & Merrill, 1991):

Normative need – A normative need exists when an individual or group has a deficiency, fall below the norm or expectation of some established group. For example, students in a school score below national average

Felt need – This need is present when someone feels that it ought to be done or an individual desire to improve. Warning: ID should be aware of needs that are motivated by a desire other than performance improvement. For example, a supervisor feels a sensitivity training program would be useful to encourage workers collaborate more or a parents of elementary school children feel their children need computer literacy skills

Expressed need or demand - A felt need becomes an expressed need when people put what they want into actions; there is more need than there is a supply. For example, 300 students show up for Introduction to Biology at 8am and the room contains 100 chairs

Comparative need - A comparative need is present when two groups with similar characteristics do not receive a similar services or products. A discrepancy exists between two groups. For example, one high school has a state of the arc computer laboratory and every other high school in the district does not.

Anticipated or future needs - This need is concerned with "what will be" rather than "what is". A discrepancy between what is currently available and the what is projected as a future demand. Identifying such needs should be part of any planned change so training can be designed prior to implementation of the change. For example, a school principal and supervisors might decide to implement a new instructional technology next year. An anticipated need is the knowledge teachers require to use the technology effectively in a classroom.

Critical-incident need - Critical incident needs are identified by analyzing potential problems and emerge when failures have significant consequences happen. For example, shootings in Columbine High and other schools prompted needs for security measures to be taken in public schools.



Think About It Activity 3.2

Identify the type of need in each scenario:

Scenario 1: An administrator feels that an internet safety course for teachers might prevent future problems when students use the computer labs for class projects.

Answer: Felt need

Scenario 2: Female athletes are permitted by the state to participate in male sports (i.e. football) if their schools do not offer female teams in these sports, male students who want to play volleyball on female teams do not have the same rights.

Answer: Comparative need

Scenario 3: An education course at a college does not meet regional requirements for accreditation.

Answer: Normative need

Using a Needs Analysis: Identifying Goals



The result of a needs assessment is a description of a problem, evidence of the causes of the problem, and a list of possible solutions or interventions. The result of the needs assessment should also be one or more well-defined goals.

Goals are general in nature (for they will be broken down later into objectives) and usually stated in terms of new skills, knowledge, or attitudes the learner is to acquire. The goal directs the entire design process.

To assist you in identifying your goal, you may answer the following questions:

1. Who are the learners that you want to accomplish your goal?
2. What should the learners be able to do, perform, or accomplish?
3. In what context will they be attempting to accomplish it?
4. What tools will be available to them as they attempt to accomplish it?
5. How could you tell if they did accomplish it?

A well stated goal statement includes the following elements:

- Identification of the learners
- Identification of the desired skill, knowledge, or attitude

- Identification of the desired skill, knowledge, or attitude will be applied in context
- Identification of the tools

An example of an effective goal statement that arose from the identified need of students being unable to effectively use the Internet to do research is: Given a research topic, first-year English students will use the Alta Vista Internet search engine to locate information related to their topic and then evaluate the quality of the sources they find to select the most worthwhile.

Steps to Writing an Effective Goal

Mager suggests the following step to write a clear goal:

1. Write the goal down.
2. Identify the behaviors that learners would demonstrate to reflect their achievement of the goal.
3. Sort through the list of behaviors and select those that best represent what is meant by the unclear goal.
4. Incorporate each of the behaviors into a statement that describes what the learner will be able to do.
5. Examine the goal statement and ask yourself this: If learners achieved or demonstrated each of the performances, would you agree that they had achieved the goal? If the answer is yes, then you have clarified the goal.

ISD Project Step 1: Identify the Need and Develop a Goal



At this point, you will begin to work on your Instructional Design Project. Remember that your project requires that you use the ISD process to develop an ISD report and lesson or workshop to assist educators or administrators to develop an attitude, skill, or knowledge to assist them in the meaningful integration of technology in the classroom, school, or university.

The purpose of the lesson for the ISD project should be to assist pre-service educators, educators, administrators, or staff in developing an attitude, skill, or knowledge to assist them with the meaningful integration of technology or distance education in the classroom, school, university, or organization. It may be developed for a K-12 setting, higher education setting, business, or government setting. You will not need to conduct a needs assessment for this assignment;

however, you will need to identify a need in which to derive a goal- what it is you want the learners to do when they finish with the instruction? You may identify a need based upon a setting in which you are working or one of the case studies provided.

Identify the Need

Begin by analyzing the case study or chosen environment. Then, describe the need or general topic for which you wish to develop an instructional lesson. A brief paragraph about the setting and identified need will become the first part of your ISD project report.

Goal Statement

Next, identify an instructional goal that you would like to accomplish through your instructional design project. It should be related to the need you identified above and should take into consideration school, university, or state vision and goals. As Reiser and Dick state (1996), "it is important for you to realize that the local school, school district, and state in which you will work are likely to have identified a variety of instructional goals they will expect your students to accomplish. These instructional goals will appear in curriculum guides, teacher's guides, and other planning materials prepared by local and state education agencies." Additionally, ensure that it addressed the components of a well written goal statement and is feasible (remember this is one lesson) and clearly stated.

Please note that for the purpose of this course, you are applying the instructional design process to one lesson; however, the same principles are applicable whether your area teacher designing a lesson or a course or a district technology manager designing a school or district program.

Now that you have a description of your learning need and feasible and clearly stated instructional goal, we will move onto the process of a task or an instructional analysis.

Summary

Now you should be able to:

- Define a needs analysis
- Identify the processes of a needs analysis
- Describe how a needs analysis can be used to identify instructional goals
- Create a goal statement for a distance education professional develop lesson or workshop or unit.

By the end of this unit, did you learn what you wanted to learn?

Personal Objectives:

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