

# Analysis Phase. The Instructional Context

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Smith, P.L. & Ragan, T.J. (2005). Instructional Design. Third Edition. Willey Jossey-Bass Education. Chapter 3

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| Needs Assessment | Using the Problem Model: A problem has been identified | 1. Determine whether there really is a problem  | Who says there is a problem?  |
|                  |  |   | Why do they say there is a problem?   |
|                  |  |   | Do others perceive it to be a problem?  |
|                  |  |   | Who does not agree that there is a problem? Why?  |
|                  |  |   | When was the problem first noticed?   |
|                  |  |   | Who is affected by the problem?   |
|                  |  |   | In what way and how seriously does the problem affect the mission of the organization?  |
|                  |  | 2. Determine whether the cause of the problem is related to employees' performance in training environments or to learners' achievement in educational environments | How does employees' performance (or learners' achievement) relate to the problem identified in step 1   |
|                  |  |   | Is this relationship correlational? That is, when performance or achievement improves, does the problem get better and vice versa?  |
|                  |  |   | Does performance (or achievement) appear to be impacted by another factor that causes both the problem and the performance or achievement deficits?   |
|                  |  |   | What evidence is there that suggests that performance or achievement deficits cause the problem or affect it?   |
|                  |  | 3. Determine whether the solution to the achievement/performance problem is learning.   | Could they demonstrate that they have achieved the learning reflected by this goal, if their lives depend on it?  |
|                  |  |   | Is there evidence that achievement/performance problems may be caused by motivation, incentives, facilities' design, tools design, the climate of the agency, the interaction with peers, policy decisions, or other nonlearning factors? |
|                  |  | 4. Determine whether instruction for these learning goals is currently offered  | If instruction is not offered proceed to the Innovation Model   |
|                  |  |   | If instruction is being offered, proceed to the Discrepancy Model.  |

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| Needs Assessment | Using the Innovation Model: There is or may be something new that learners need to learn | 1. Determine the nature of the innovation or change  | Has there been a change in the composition of the learner population?  |
|                  |  |  | Has there been a significant change in the tools, policies, or organization?   |
|                  |  |  | Has there been a significant change in the educational/training philosophy of the organization?                        |
|                  |  |  | How will the innovation or change affect the mission of the organization?  |
|                  |  | 2. Determine the learning goals that accompany this innovation   | How will the innovation or change affect what is expected in learners' achievement or employees' performance?          |
|                  |  |  | Does the effect significantly change what learners or employees must understand, know, or do?                          |
|                  |  |  | Are these new understandings, knowledge, or actions be taught?   |
|                  |  | 3. If there is a choice, determine whether these goals are appropriate and high priority in the learning system. | Are the resources available to support this new instruction? Are they adequate to design and develop this instruction? |
|                  |  |  | Does the goals conflict with existing goals?   |
|                  |  |  | How will these goals be interpreted by affected groups?  |
|                  |  |  | Do these goals represent partisan positions or vested interest groups?   |
|                  |  | 4. Begin the learning environment analysis design activities   | Are there groups that may object to these new goals?   |
|                  |  |  | proceed with the next phase of instructional design  |

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| Needs Assessment   | Using the <b>Discrepancy Model</b> : No big problem is apparent, but the organization wishes to evaluate its learning/training program to see if goals are congruent. (summative evaluation model) | 1. List the goals of the instructional system  | Through interviews, analysis of documentation and observation. In case no goals have been stated: a) Initiate a goal definition activity in which stakeholders go through the process of formalizing the learning goals, b) Engage in a modified "goal-free" analysis, in which after observations, interviews, examination of learning artifacts, and examination of instructional materials they attempt to infer the goals.   |
|  |  | 2. Determine how well the identified goals are already being achieved.   | The current level of achievement of learning goals can be determined through the use of paper-and-pencil tests, observations of individuals completing tasks on the job or in simulated situations, learners' self-assessments, or evaluation of products of learners, such as error rates and reports from quality-control sections. Instruction that requires the expending of effort, time and other resources beyond that needed by alternate or revised instruction can be considered inefficient. Inefficient instruction often indicates that an alternate form of instructional delivery is appropriate. |
|  |  | 3. Determine the gaps between what is and what should be   | This gap may be precisely stated in percentages.   |
|  |  | 4. Prioritize gaps according to agreed-upon criteria.  | The size of the gap, attending to the biggest gaps first.  |
|  |  |  | The importance of the goal, working on the goals that are the most critical first.   |
| The number of students affected, choosing those gaps that affect the largest number of students.   |  |  |  |
| The consequences of not meeting the goal, selecting those gaps that have the most serious consequences if the gaps are not closed first. |  |  |  |
| 5. Determine which gaps are instructional needs and which are most appropriate for design and development of instruction.                | The probability of reducing the gap, attending to the gaps that have the greatest probability of being closed with the available resources first.  |  |  |
|  |  | Consider eight solutions other than training that might solve performance problems: job redesign, recruitment (selection), job reassignment, organizational development, selling (motivation), incentive and feedback systems, facilities design and tools design. |  |

**Describing the Learning Environment**

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| <p>1. What are the characteristics of the teachers/trainers who will be using these materials?</p>                                  | <p>What are the interests and preferences of the teachers/trainers? How did they see their roles in the classroom?</p>  |
|   | <p>How do the teachers/trainers in the learning environments feel about having instruction delivered via media or other nontraditional methods?</p>   |
|   | <p>Do teachers/trainers like to use technology- based instruction for the central portion of instruction in a particular content area? Or do they plan to use technology-based instruction for remediation, enrichment, or review? What experience have teachers/trainers had with the Web, computer based learning environments, integrated systems, and so forth?</p>                     |
|   | <p>What is the level of experience of the teachers/trainers with content, learners, and teaching in general?</p>  |
|   | <p>2. Are there existing curricula into which this piece of instruction must fit? If so, what is the philosophy, strategy or theory used in these materials?</p>  |
|   | <p>If a particular approach is used to teach a specific content, such as reading, then in order to be compatible and integral into the curriculum, material should be developed that utilizes this theory or philosophy</p>   |
| <p>3. What hardware is commonly available in the potential learning environments?</p>   | <p>Are there video playback machines, and what are their formats?</p>   |
|   | <p>Are computer workstations available? If so, what kind, how many, and in what configurations and networks?</p>  |
|   | <p>What about slide or overhead projectors? What software and other materials are available?</p>  |
| <p>4. What are the characteristics of the classes and facilities that will use the new instruction?</p>                             | <p>Are learners more accustomed to being information receivers or active learners? Are they accustomed to work cooperatively in groups or individually?</p>   |
| <p>5. What are the characteristics of the school system or organization in which the new instruction will take place?</p>           | <p>The designer should investigate the beliefs of the organization in terms of the roles and expectations of the learners, the teachers/trainers, and the management. What does the school system or the organization see as its primary mission? How does the proposed instruction relate to the mission of the organization? Who are the primary decision makers in the organization?</p> |
| <p>6. What is the philosophy and what are the taboos of the larger community in which the organization or school system exists?</p> | <p>Often this is not a critical issue. But, due to the serious consequences of not considering these issues in certain circumstances, it is worth to consider the larger system.</p>  |