

Linguistic Research Institute

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LARGE SCALE SYSTEMS:

A Task Analysis, Assessment, Curriculum,  
Training, Evaluation, and Feedback Package

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## I. Analysis of Problem

The general problem can be stated as "How can we achieve and maintain an effective statewide system-integrated training program and curriculum?" This problem divides into a number of more specific problems and issues, some of which seem particularly promising in providing an entree to the elements of a general solution.

### A. Person Characteristics

Specifically, we would begin with a consideration of the person characteristics which would be the objectives of the training program. These characteristics divide fairly naturally into the following categories.

1. Technical skills and knowledge
2. Interpersonal effectiveness
3. Role Identification
4. Competence

Technical skills and knowledge include such things as handling of weapons, search procedures, knowledge of statutes defining crimes, and arrest procedures. Relevant questions include (a) Which skills and knowledge are essential for which tasks and which currently defined occupations? and (b) What level of mastery of each is required?

Interpersonal effectiveness has to do with carrying off a normal range of human interactions without

creating difficulties which are not inherent in the situation. Relevant questions include (a) Which deficiencies of this sort interfere significantly with justice system tasks? and (b) Which tasks call for greater than average effectiveness of this sort and in what way?

Role identification refers to the person's being able to operate with an appropriate attitudinal and judgmental orientation which guides his particular judgments and behavioral choices in particular situations. Roughly speaking, this orientation should correspond to the mission or general policies of the organization.

Competence has to do with the person's normal and expected level of success at a given task in the historical, real life setting. Relevant questions here are (a) What is a reasonable and functional breakdown of tasks within the organization? and (b) how to assess the competence at those tasks.

With respect to all four types of person characteristics a relevant question is, "What specific training or learning experiences facilitate the acquisition of the person characteristic?"

One of the main background considerations in categorizing the four different kinds of person characteristics is that there is always some gap, and it may be very substantial, between actual effectiveness at a given task and mastery of the specific skill and knowledge

components into which the task success can be analyzed. This is the gap between the first and fourth categories, i.e., (a) technical skills and knowledge and (d) competence. Taking account of interpersonal effectiveness and role identification helps to narrow the gap to a manageable minimum.

Given this entree, one may readily elaborate into the remaining problems, which include the following.

- (a) Which person characteristics facilitate training or predict competence?
  - (a1) How to assess these characteristics.
  - (b) Which specific person characteristics are relevant to the tasks in question?
    - (b1) How to assess these characteristics.
    - (c) How to certify in the absence of training.
    - (c1) How to certify for partial training.
    - (d) How to assess the effectiveness of the training and use the assessment to improve or maintain the training.
    - (e) How to dovetail the training for a variety of tasks and occupations for optimum use of training resources.
    - (f) How to gain acceptance for training goals and procedures without being locked into the status quo.

- (g) How to identify and cope with the full range of tasks for which training is needed.
- (h) What incentives and disincentives does the justice system and its various organizations provide for its various personnel?
- (i) How to take account of the fact that many of the decisions involved in the project allow for multiple points of view and more than one possible "right way" to do things.

## II. Procedures for Addressing Problems

The primary procedure for addressing the problem would seem to be some form of systems analysis of the criminal justice system. This analysis would primarily involve in-depth interviews with knowledgeable people, mostly within the system, augmented with (probably) some scaled judgments and some documentary analysis. This analysis would result in the following preliminary results.

- (a) An object-process (structure-function) representation of the criminal justice system and its organizational subsystems and their linkages, the subsystems within each organization and their linkages.
- (b) An identification of missions and tasks at each level of description.
- (c) A set of person characteristics associated with tasks at the individual level.

- (d) A set of person characteristics associated with a good prognosis for training.
- (e) An identification of sets of tasks currently collected together under any single job description.
- (f) A set of person characteristics associated with each job description.

Given these results, the following further procedures would be called for.

- (g) Devise and implement methods for quantitative assessment of the person characteristics identified in (c) and (f) above.
- (h) Devise and implement training procedures specifically in terms of the detailed task analyses and person characteristics.
- (i) Assess candidates before, during, and after training.
- (j) Survey graduates in the field and consumers of their services to check on skill and value emphases in training, and feed back into training program.
- (k) In terms of person characteristics and instrumental criteria, devise criteria for equivalency examinations for training or certification purposes.
- (l) Analyze the training requirements, especially in terms of skill levels required, so as to separate out common factors with an eye toward a core

curriculum and specialized instruction structure.

- (m) Analyze the incentive-disincentive structure of each organization, including person characteristics selected for, reward, evaluation, and promotion structure, self-actualization opportunities, recognition opportunities, et cetera.
- (n) A set of organizational effectiveness assessments for possible feedback on which to base changes in task analyses, relevant person descriptions, or job descriptions and the associated instructional and evaluation procedures.

### III. Relevant Projects

Below is a set of brief descriptions of relevant recent and current projects performed by LRI or by LRI Fellows. In addition, there is a more detailed outline of a large scale project which appears to be most closely related to the Justice System training program issues.

It is common practice in LRI projects to develop our own instruments (questionnaires, interview schedules, etc.) for data gathering, since (a) it is essentially never the case that an existing instrument was developed for the specific task at hand and (b) there is generally no compelling evidence to suggest that instruments developed on other rationales for other tasks in other settings will work well for the task at hand. Similarly,

we customarily design and program data analyses specifically for a given project, so that we are not restricted to standard statistical analyses, though we make frequent use of them.

#### A. Organizational Structure-Function 1974

Techniques for accomplishing organizational structure-function analysis down to the level of individual tasks and job descriptions were first demonstrated by Earlene Busch in the first Boulder Police Department study (Earlene Busch, *The Boulder Police Department: An Organizational Study of Structure-Function*, M.A. Thesis submitted to the University of Colorado, 1974).

#### B. Systems and Organizational Analyses

H. J. Jeffrey and Anthony O. Putman are currently doing a structure-function systems analysis of Bell Laboratories in Naperville, Illinois using the technical approach described by P. G. Ossorio in "What Actually Happens: Theory and Techniques for Automatic Fact Analysis" and first applied by Earlene Busch in the first Boulder Police Department study.

#### C. Multiple Perspectives, Value Orientations, and Police-Citizen Interface (Ossorio, P., Busch, E., & Lasater, L. *The Boulder Police Department; Values and Implementation for the City of Boulder*, 1975)

Citizens' and Police Officers' value orientations toward the mission, tasks, and performance of the Boulder Police Department were studied by means of a survey using a questionnaire developed on the basis of interviews with knowledgeable or system-relevant persons. Techniques for assessing the judgmental, or "orientation," aspects of police work were developed. Possible changes in the activities of the Department were identified (based on the earlier task analysis and interviews) and a brief pro and con and consequences analysis developed (based on interviews). Views on such changes were connected to value orientations.

#### D. Evaluation Procedures and Their Consequences

A study of the parameters and system consequences of officer evaluation procedures in three police departments in Colorado is currently being conducted by Earlene Busch. The project is in the design and instrument construction stage.

#### E. Law Enforcement Instructional Materials

A current LRI project is to develop didactic materials in the form of workbooks, flip charts, and programmed instruction modules. At present an experimental module has been developed in workbook format dealing with the concepts, statutes, and judgments involved in the various crimes of "assault." We

anticipate that the project will emphasize programmed learning. Personnel for this project include P. G. Ossorio, Earlene Busch, Theodore Kozanecki, and Phillip Battany.

#### F. Life Orientation and Criminal Behavior

This dissertation research by Kate Marshall involves a reconstruction of the kinds of life orientations which seem most likely to be the ones expressed by habitual crimes of certain categories (burglary, aggravated assault) and certain occupations (auto mechanic, minister). The project, which is now in the data analysis stage, features methods of assessing choice principles which (a) characterize different life orientations and (b) exercise a substantial behavior-guiding influence on criminal and non-criminal behavior.

#### G. Systematic Task Analysis, Assessment, Curriculum

Training, Feedback, and Evaluation Package. 1976, 1977

This was a large scale (Army wide) project to design, implement and evaluate an Organizational Effectiveness Officer Training Program. It involved essentially the same kind of tasks as appear to be involved in the design, implementation, and evaluation of the justice system training program. An outline of the project is given below. Each part of the project shown in the outline was worked out in specific, implementable detail

by Captain Dan Popov. It appears that this work is transferable, with some modifications, to the justice system content area. In order to facilitate this interpretation the outline below is couched as much as possible in content-free terms rather than specifically in terms of the Organizational Effectiveness training program. Because of the considerable amount of detail involved in this project a verbal presentation appears to be the only effective way to present it in a practically useful way.

#### OETC Project

- I. Perform a comprehensive needs/task analysis of the paradigmatic case of a training program graduate
  - A. In what areas are these individuals called on to function?
  - B. What competencies are the individuals called on to demonstrate in each of these areas to be able to function?
  - C. For each competence what knowledge, ability, and value must be trained/present for it to be demonstrated and how will each of them be exemplified in general through behavior?
- II. Delineate the versions of the paradigmatic case that would be most responsive to the realistic needs of the training/practice settings.

- A. Identify the "bodies of knowledge" essential for an individual to be said to be knowledgeable enough to function competently in all critical areas.
  - B. Specify the value oriented person characteristics (attitudes, interests, personal values, etc.) essential for an individual to be motivated to maximize competence in all critical areas.
  - C. Identify the skills/abilities that have to be present to act on to be said to be able to function competently in all critical areas.
  - D. Develop those "bodies of knowledge," value orientations, and skills/abilities that are mutually supportive enough to be said to be characteristic of, or necessary for a type of graduate of a training program of this type.
  - E. Choose the type of training program this one is going to be to match the realistic needs of the training/field setting. (There are several general types of programs.)
- III. Specify the training criteria needed to prepare an individual to exemplify the task/occupational/training version selected.
- A. Specify the level of mastery needed for each "body of knowledge."
  - B. Specify the strength of the value orientation needed for each area.

- C. Specify the level of mastery of each of the skill/ability areas.
- IV. Develop ways to measure the levels of each of these areas for each area of functioning.
- A. Through examination
  - B. Through observation
  - C. Through documentation
- V. Develop a procedure to assess the status of each individual in each area
- A. Before program begins
  - B. As program progresses
  - C. At the end of program
  - D. After an opportunity to practice in each area
- VI. Develop a training program that will enable an individual with any status in each area to meet the criteria in all areas, a training program that meets criteria of generalizability
- A. Over location
  - B. Over instructor
- VII. Implement training program
- A. Develop materials, methods, etc. to enable learning
  - B. Present instruction
  - C. Assess impact of instruction
  - D. Use data on instruction to modify future instruction with the results that all individuals in training program are maximally enabled to meet training criteria

- VIII. Implement procedure by which those who meet the training criteria can demonstrate it without the need to go through the program.
- A. To use same training criteria as course
  - B. To use same status measures as source of instruction.
- IX. Develop procedure to measure "fit" of course graduates in the range of operational settings.
- A. From view of program's intended impact
  - B. From view of graduate
  - C. From view of client/recipient of graduates' services
  - D. From view of projected future changes
- X. Delineate which elements of competent functioning are unique to which operational settings.
- A. From various perspectives
  - B. In terms of external program outcomes
- XI. Develop/modify core curricula to reflect general vs. specialized needs for competent functioning of every critical type.
- A. Use feedback to modify paradigmatic case if indicated
  - B. Use feedback to modify training criteria as indicated
- XII. Follow-up to assure continual delivery of graduates of the right sort to use emerging opportunities/meet changing needs.