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ABSTRACT

Adult career education holds a great potential for redirecting and correcting offenders and for continuing development of staff in corrections. A systems approach to adult career education in the corrections setting can make this potential become a reality. This paper describes the implementation of systems research in this area. The process of developing a generalized model for planning and evaluation of career education is presented, and the results of using a generalized model for problem-solving in eleven correctional settings are compared. The outcomes of adult career education are optimized in corrections through the systematic use of analyses, synthesis, simulation, and modeling. When simulation is used to process problems from different corrections settings through a generalized model, the result is a systematic evaluation of alternatives in order to select the best possible plan for meeting needs and achieving objectives which will alleviate the problems and implement the mission of career development for staff and offenders in that setting. (Author/MW)

**SYSTEMS RESEARCH IN CAREER EDUCATION IN CORRECTIONS**

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# SYSTEMS RESEARCH IN CAREER EDUCATION IN CORRECTIONS

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## Overview

This paper describes the implementation of systems research in career education in corrections. The process of developing a generalized model for planning and evaluation of career education in corrections is described. A generalized model of adult career education in corrections is presented, and the results of using a generalized model for problem-solving in eleven correctional settings are compared.

## Developing a Generalized Career Education Model

System research is concerned with systematic and scientific testing of alternatives for optimizing outcomes. Systems research produces answers to hypothesized questions, which can be conceptualized in relation to a defined systems. The basic concept in systems research is the system, that is, an organization or structure comprising an orderly whole made up of related parts which individually and in their totality work together to accomplish a specified mission. Systems research involves the application of four basic techniques: (1) analysis, (2) synthesis, (3) modeling, and (4) simulation.

Analysis is the process of breaking wholes into component parts, identifying the parts, determining relationships among the parts, separating the parts, and limiting the process when it no longer is efficient to break down into smaller units. Synthesis is the process of creating new wholes. This is accomplished by identifying the elements, determining the relationships among the elements, combining the elements, and limiting the process.

Synthesis is not to be confused with assembly, which refers to the combining of elements in the same way they were combined before. Modeling refers to the process of creating simplified versions of real life situations, Silvern (1972) specifies the purpose of model-construction as the provision of a means by which effectiveness can be predicted without actual implementation of the system. The essence of systems research is the testing of alternatives for accomplishing behaviorally defined objectives, so that the best possible configuration for optimizing outcomes can be selected. Systems research employs systematic evaluation and comparison of alternatives before, during, and after implementation. Model development is accomplished by producing and testing models. It is through this process of model producing and testing that chances are optimized for selecting the best possible configuration of accomplishing a specified mission. Simulation is the process of testing a model under conditions made to resemble the real life situation as closely as possible.. Silvern (1972) points out that simulation serves two purposes:

1. Testing a model and debugging it until it has a very high correspondence with reality. In this process, problems are input, processed, and reprocessed until all elements of the model and the interrelationships among the elements in the model are identified and are embedded in the appropriate place. At that point the design is fixed.

2. Using a frozen model, which has fidelity of 100 percent with respect to real-life, as a problem-solving device.

Systems research implements three operations in developing a model:

- (1) analysis of the real life situation; (2) synthesis of a prototype; and
- (3) simulation to test the model (Figure 1).

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 Insert Figure 1 about here  
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### Analysis of the Real Life Situation

The development of a model starts with a look at the existing situation. It is difficult, if not impossible, to make any kind of rational decision about "where one wants to go" unless one first knows where he is. This is accomplished using survey, interview, observation, and testing techniques to gather data which will describe the existing situation. These data are processed and transformed into information which can be used for subsequent work in planning and evaluating activities related to career education in corrections.

The development of the generalized model of adult career education in corrections began in 1971 with the analysis of the existing situation in relation to adult career education in corrections in the United States and its territories. Adult career education was conceptualized as a purposefully created set of experiences implemented in a contrived environment to achieve and support a healthy career development of individuals. Career development was defined as the growth toward occupational maturity and self-identity through a pattern of occupational and avocational roles implemented in the self-concept. This definition of career development is in opposition to the notion that a career must be confined to a single occupational area, such as medicine or law, with continuing upward mobility within that area. This concept of career takes in the total life pattern of the individual, with lateral as well as upward or downward occupational movement, and looks at career development in terms of the self-concept of the person. Within the framework of this definition, then, the criminal career would not be one which would be supported by career education.

In analyzing the existing situation in 1971, a national survey was made, supported by observation and interview data, to determine the extent

and quality of the six elements in corrections settings: (1) staff and clients of corrections; (2) programs for corrections staff and clients to support career and self-awareness, career exploration, skill development, placement, and followup; (3) monies allocated to the support of career education for corrections staff and clients; (4) facilities within corrections institutions and in the community to support career development; (5) psychological climate in corrections and the community to support career development; and (6) community needs and resources related to career development of corrections staff and clients. The results of the survey revealed staff and clients were inadequately prepared in areas relating to vocational, avocational, family, community, and citizenship roles. The survey also revealed lack of programs, budget, community participation, climate, facilities, and hardware/software to support career education in the correctional settings. A major deficit was found in the area of relationships among units in institutions and communities. There was little articulation from pre-sentence to post-release experiences. There was little integration across departments or units within the corrections agencies or institutions.

#### Synthesis of a Generalized Model

The creation of a generalized planning and process model is accomplished by putting together unrelated elements to produce the most effective structure possible for planning and maintaining a system. The adult career education in corrections planning model was synthesized by using techniques of brainstorming, literature review, and analysis of existing planning and processing systems. The synthesis of the generalized model was accomplished as a team effort. The first version of the model was completed in November, 1972. A major effort was devoted to literature search

and analysis of related planning models between June and October. In October, a national work conference with interdisciplinary representation among participants was held for the purpose of synthesizing a set of macro-level goals and identifying essential elements for effective planning of adult career education in corrections. The goals and elements were related to the results of the needs assessment, and the model was synthesized in November. The next step was the testing of the model.

### Simulation to Test the Model

In simulating to test a generalized model, the procedure is to take several real life situations and run them through the model. This will reveal if there are gaps or elements which are missing in the planning process, as well as pointing out where relationships are illogical or weak. When the real life situations which are being run through the model reveal no further malfunctions, it can be assumed that the generalized model has been debugged, and the design is frozen. At that point the model can be used repeatedly as a problem-solving device. This means the generalized model can be used to create or improve delivery systems of career education for a limitless number of corrections settings.

When simulation is carried out to test the prototype, it is essential to establish a set of standards against which the performance of the model will be evaluated. The performance criteria for testing the generalized model of adult career education in corrections derive from the four basic principles which Ryan (1969) stipulated as criteria for system effectiveness:

1. The principle of wholeness. There must be no gaps or missing elements in the system. All of the functions must be present which are essential for effective and efficient planning of delivery systems of adult

career education in corrections. For example, if the evaluation function were omitted, this would violate the principles of wholeness, since it would not be possible to have an efficiently performing system if provision were not made for both summative and formative evaluation.

2. The principle of compatibility. The system design must be one which will direct the planning of delivery systems of adult career education in correctional environments. This means that the conceptual framework for adult career education in corrections must be clearly established, and the elements related to planning must be oriented to the staff and clients of corrections.

3. The principle of optimization. The mission must be implemented in supporting goals, subgoals, and objectives. In light of a generally accepted mission of corrections to reduce the recidivism rate by some 70 percent, the macro-level goals which were defined by the Career Education Conference in 1972 are seen as relevant. The goals which were synthesized from the task group reports of the National Career Education in Corrections Conference are seen as givens, to be implemented in subgoals specific to the particular corrections setting for which a delivery system is being designed or implemented. These macro-level goals are:

- a. Making staff and clients capable of efficient decision-making in relation to personal and occupational pursuits
- b. Making staff and clients capable of implementing healthy, positive, work-oriented attitudes and values
- c. Making staff and clients capable of implementing citizenship responsibilities which contribute to the social good
- d. Making staff and clients capable of implementing social relationship skills and being aware of cultural differences



e. Making staff and clients capable of realizing self-fulfillment.

The subgoals and performance objectives specified for the delivery system must implement the five macro-level goals.

4. The principle of systematization. The relationships among the functions must be strongly related. In a planning model, it is important that each function be shown to have clearly defined relationships to other functions, and that feedback mechanisms to insure quality control are specified. The planning model must be one which will direct the planning of systems in which the elements are closely related.

The generalized model was used for 32 narration simulations, which were accomplished as data from 32 different correctional settings in the United States were processed through the generalized model. In addition to the simulation, the model was subjected to independent evaluation. The evaluations and the iterative set of simulations resulted in identification of malfunctions in the model. A model design task force was constituted to revise the model, using feedback from the simulations and independent evaluation. The revised model underwent 25 simulations, using data from the real life environment of 25 correctional settings. The design of the generalized model which resulted from the iterative replication of simulations from 57 different correctional settings is frozen, and the model now stands ready for continuing use as a planning model for adult career education in corrections.

#### The Generalized Adult Career Education in Corrections Model

The planning of adult career education for any correctional setting is conceptualized as a process involving seven separate but related functions (Figure 2).

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### Establishing a Conceptual Framework (1.0)

The first step in planning an adult career education system is to establish a conceptual framework. This is accomplished by establishing a rationale, by setting forth the reason for the existence of the system, and specifying underlying principles or assumptions. A key function at this stage is the specification of the stated mission of the agency or organization in which the system is to function. The conceptual framework serves the purpose of providing a basis for delineating an ideal system, and in effect, sets the outside limits and the philosophy base for the systems operation. In the generalized model a number of assumptions are presented as givens, implementing the concept of adult career education in corrections setting. The most important assumptions deal with the belief in the dignity of man, the right of each individual to develop to the maximum his full potential, and the soundness of providing developmental experiences through a continuum of related experiences of awareness, exploration, skill development, placement, and followup involving total institutional, agency, and community participation. These assumptions, together with those established especially for the delivery of adult career education in the designated setting, constitute an essential part of every conceptual framework.

### Processing Information (2.0)

The second step in setting up and maintaining a system of adult career education in corrections is the processing of information. This refers to systematic gathering, evaluating, storing and disseminating of data. The generalized model describes the process of data gathering, gives guidelines for effective storage of information, and specifies procedures for retrieval and dissemination. The generalized model spells out the kinds of data which must be gathered to support a delivery system of adult career education in

corrections. In order to plan and maintain a delivery system of career education in corrections, quantitative data are needed to describe staff, clients, hardware/software, facilities, programs, climate, and community. Data must be provided to describe existing job opportunities, occupational clusters, employment projections, and societal needs.

### Assessing Needs (3.0)

The third step in a systems approach to adult career education is the assessment of needs. This is accomplished by first synthesizing an ideal, and then comparing this against the real life situation. The ideal derives from the conceptual framework specified in (1.0), and is concerned with the ideal performance level and career development of staff and clients, as well as the ideal finances, programs, hardware/software, community, climate, and facilities needed to support the desired career development of clients and staff. The real situation is exactly what exists in the real life environment, in relation to clients and staff as well as the existing financial support, programs, hardware/software, community, climate, and facilities.

Needs are assessed by comparing the real against the ideal. First the primary needs are determined by seeing just how close the staff and clients come to the optimum specification for career development and performance levels. The secondary needs are identified by looking at the existing situation concerning the elements needed to support full career development of staff and clients. In determining needs, the mission of the organization, institution, or agency must be considered.

### Defining Goals, Subgoals, and Objectives (4.0)

The conceptual framework in (1.0) sets forth the mission of the agency or institution, which is to deliver career development to staff and clients. The conceptual framework also sets forth the ultimate outcome to be realized

through career development. The generalized model presents in (4.0) a set of five goals, implementing the concept of career development. These five goals become givens for every delivery system. In running a narration simulation using the generalized model, with the intent of producing a delivery system, the task becomes one of relating the needs identified in (3.0) to the set of five goals, to determine which of the goals is not being met adequately. For each of the unmet goals, subgoals must be defined, which, in turn, become the overriding goals of career development for the particular institution. Each subgoal is expressed in terms of programs to be developed or provided in order to meet the primary needs expressed in terms of staff or client development. For each subgoal, performance objectives are stated. These become the criteria against which system effectiveness is determined. The planning model specifies that each performance objective will be subjected to a quality test to be sure that it is specific, pertinent, attainable, measurable, and observable.

#### Formulating the Management Plan (5.0)

The goals, subgoals, and objectives specified in (4.0) set forth the desired outcomes for the delivery system of adult career education in corrections. The essence of systems research is really focused in the (5.0) subsystem, formulation of the plan. This involves synthesizing the best possible solution, from among a number of alternatives, for achieving the objectives, and then modeling and simulating to test these options. Finally, the one which appears to offer the best chances of optimizing the outcomes is selected.

#### Implementing the Program (6.0)

The plan which is selected in (5.0) must be initiated and maintained. This requires a number of procedural arrangements as well as a maintaining

function. The procedures for initiating the system first on a pilot basis, and later on full scale, are set forth in (6.0).

### Evaluating the System (7.0)

The evaluation of a system is an integral part of systems approach. The planning model provides for evaluation of the delivery systems, both as on-going evaluation of the operating system, and as a summative evaluation at the conclusion of a program or cycle of operation.

The seven stages which are encompassed in the generalized model of adult career education in corrections are seen as essential to the effective delivery of adult career education in any corrections setting. The generalized model provides a systematic approach for optimizing career development for staff and clients in corrections through a continuing process of planning, maintaining, and evaluating functions.

### Simulating with a Generalized Model for Problem-Solving

When the generalized model of adult career education in corrections is used as a problem-solving device, the result is a set of delivery systems which are intended to have the greatest possible chance of optimizing career development outcomes in correctional settings. An analysis of eleven such simulations reveals that the delivery systems in the eleven settings have more differences than commonalities. This is to be expected, since the problem situations, as revealed through the expressed needs and system subgoals and performance objectives, are unique to their individual settings. The needs in one setting are not necessarily the needs in another setting just by virtue of the fact that both are corrections settings. Some commonalities can be found, but in the last analysis, since each setting is unique, there is no way that two delivery systems could be identically the same. The basic system principle of compatibility mandates that

the system must be compatible with its environment. This means that each delivery system must be one which is designed for and geared to the environment in which it will function.

The results of simulations using the generalized models revealed that one need is felt to some degree in almost all of the settings. This is concerned with the need for clients to develop a greater self-realization. Analysis of eleven delivery systems which used the generalized model for problem solving reveals that six out of eleven systems are incorporating a counseling function, and three are providing individualized learning experiences. The idiosyncratic nature of the delivery system is revealed through the following differences which obtain among the eleven systems which used the generalized model for problem-solving: one system is a total staff development operation; one system focuses on bi-lingual sound-on-slide vocational training; one system uses modular portable classrooms; one system provides a leisure time activities center; one system provides a career learning center; one system provides an articulated institution-community program including social learning in a family setting.

### Conclusion

The outcomes of adult career education are optimized in corrections through the systematic use of analysis, synthesis, simulation, and modeling. When simulation is used to process problems from different corrections settings through a generalized model, the result is a systematic evaluation of alternatives in order to select the best possible plan for meeting needs and achieving objectives which will alleviate the problems and implement the mission of career development for staff and offenders in that setting.

Adult career education holds a great potential for redirecting and correcting offenders and for continuing development of staff in corrections.

A systems approach to adult career education in the corrections setting can make this potential become a reality.

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### Footnotes

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2. T. Antoinette Ryan is Researcher, Education Research and Development Center, and Professor of Educational Psychology, University of Hawaii.



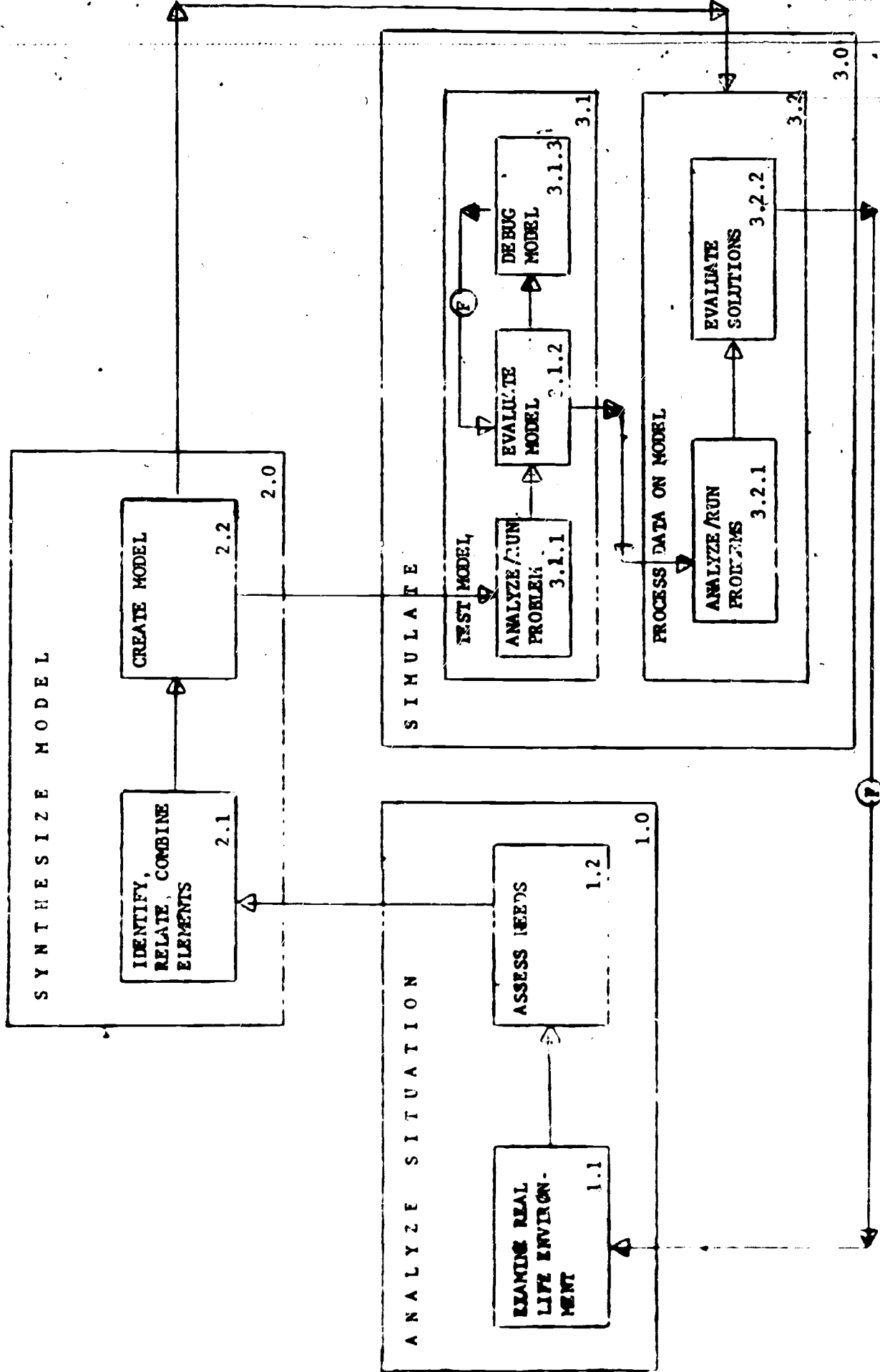


Figure 1. Model for producing a model.

