The role which a supervisor is envisaged to play in the Information System for Vocational Decisions (ISVD) is considered. Not only does the ISVD provide career development data/information, but it is intended to assist the client in promoting a sense of personal responsibility for the career decisions he makes. To clarify this latter purpose, the decision-making paradigm (Tiedeman) is discussed, with a focus on the discontinuities which exist between where the client is at vocationally and where he gradually (step-by-step) decides he wants to be. Throughout, the process of differentiation and integration of the personality is seen as the mechanism of career development. This process, facilitated by a computer-based system (ISVD), must be an integral part of the more general educational and social framework within which the clients function. The knowledge and skills needed by the supervisors of clients using the system are categorized and discussed. (TL)
INFORMATION SYSTEM FOR VOCATIONAL DECISIONS

Project Report No. 8

TOWARD A LANGUAGE OF SUPERVISION

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if it is true that the self or subject of experience is part and parcel of the course of events, it follows that the self becomes a knower. It becomes a mind in virtue of a distinctive way of partaking in the course of events...The change made in things by the self in knowing is not immediate and, so to say, cross-sectional. It is longitudinal—in the redirection given to changes already going on."


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Introduction

A meaningful discussion of the role of supervision within the Information System for Vocational Decisions requires that one first gain a clear understanding of the role of ISVD within the "process of education."

The Project is designed to create a computer-based information system for vocational decisions having as a facilitory unit of operation the client-machine interaction. This computer-based system will have two primary functions. Within the first function, relevant career development data/information will be provided to the client via data bases dealing with "the world of work," the client, and the "world of education."

The second primary function of the system will be to assist the client in promoting a sense of responsibility for his own career development, more specifically, a "sense of agency" regarding the decisions he makes and a "sense of purposing" guiding those decisions. The theoretical concerns manifested in this second function determine the form and content of the information-giving function of ISVD and the processes of articulation of the System with the educational structure.
The Decision-Making Paradigm: Discontinuities as Problems and Behavior Anticipatory to Choice

Tiedeman and O'Hara\(^1\) have elaborated a schema which allows one to put career development into an analysable perspective; analysable for the investigator and client alike. When users elect to learn the dynamics of this process of analysis of their experiences, they participate in a valuable experience, one that is dynamic.

The mechanism of career development is the process of differentiation and integration. "Career development is conceived as the process of fashioning a vocational identity through differentiation and integration of the personality as one confronts the problem of work in living." For a system to facilitate this, there is need to further illuminate the subtleties of this process; illumination appearing in the form of a decision-making paradigm.

Implicit in this paradigm is the belief that differentiation and integration occur through the experiencing of problems, and decisions made in their solutions. This process becomes most significant when the person engages in it rationally. Thus, the decision-making paradigm describes a rational mode of problem-solving as it applies to career development. According to this paradigm, one experiences a problem, anticipates and makes a decision about it, implements this decision and finally accommodates to it in one way or another.


\(^{2}\)Ibid., p. V.
When considering vocational behavior (or any other area of behavior) of an individual, one focuses upon a series of discontinuities through which this person passes. Only some of these discontinuities were within his cognizance as problems and have been dealt with as such. To perfect the rationality of dealing with his discontinuities, a person must first learn to recognize the discontinuity as a problem.

It is recognition that these discontinuities are problems which provides the subject matter for the Tiedeman-Field paradigm of purposeful action. If, as Tiedeman believes, "career is the imposition of direction into the vocational behavior of a person which is subject to his comprehension and will," then the development within the person of goals which provide him with a problem-solving perspective is necessary in recognizing discontinuities as problems. The "purposing" of behavior becomes operational only when the "currently desired" becomes part of the consciousness of the individual. To define more accurately the problem, the person must evaluate the "currently experienced" recognizing that his move to the "currently desired" involves risk-taking on his part--be it time, energy, self-respect, money or whatever.

This risk-taking introduces another concept into the first stage of the decision-making paradigm. This ability to become a risk-bearing
participant in the decision-making process is called by Fletcher "entre-
preneurial behavior." While the degree to which risk is brought to
any behavior manifested by the individual affects the very kinds of
discontinuities he will perceive as problems, it also affects his
efforts in decision-making at other stages in this paradigm.

The second stage of the decision-making paradigm concerns a
person's behavior prior to making a choice. This anticipatory behavior
is divided into the stages of exploration and crystallization, followed
by choice and choice clarification. Important aspects of anticipatory
and choice behavior involve the elaboration and subsequent narrowing
of goals and alternatives, while moving through the various stages.

Changes in the psychological condition of the person occur as
problems of importance are resolved. Therefore, at each stage dif-
ferent kinds of information, in a variety of forms, become optimally
relevant to the individual. It is the realization of the significance
of this implication which allows us to discuss some of the more speci-
fic aspects of the supervisory component of ISVD.

Inherent in the process of vocation and career development as
noted in the above described decision-making process is progress from
a present condition (known or unknown) to a future condition (antici-
pated or unanticipated), e.g., "transition through discontinuity." Des-
pite the fact that the current state of the client is transitional, he
is at some point in the above described decision-making paradigm--explor-
ation, crystallization, choice, clarification--in becoming a "knower."

4 Dudley, G. A., and Fletcher, W. J., "Personally Determined Career
and Entrepreneurial Behavior: Notes and Comments on a Dialogue," Har-
vard Studies in Career and Entrepreneurial Behavior: Notes and Comments
As we examine the occupation, education, military, marriage and leisure "life lines" of an individual, it becomes increasingly apparent that at no time are each of these in stasis. It is essential that this dynamic consciously be understood and identified by the client as he elects to develop his "life style." It is in this developmental process that the supervisory mode of ISVD is the essential component, and is defined as the continuous active management (administration) of the problem-solving decision-making processes. 

The Decision-Making Paradigm: Implications for Supervision

The critical aspects of this process of cooperative management suggest for the supervisor:

A. Accurate Identification of the Elements of the Decision-Making Problem-Solving Model.

The supervisor must recognize the interrelations of the separate life line elements of the individual client, so that he and the client can better understand the interrelationships among the discontinuities occurring within and/or between each of these elements. Decision-making is an on-going process involving continuous "review" of each phase.

B. Changes Which Occur Among and Between the Elements Noted in Decision-Making Must Become Explicit to the Client and Supervisor.

The client is always at various points in the decision-making process within the context of each of his particular life lines.
Therefore, it becomes incumbent upon the supervisor that he so
stimulate the client that they cooperatively will engage in those
problem-solving procedures that will generate understandings to assist
in the identification of discontinuities in each of the clients' life
lines. Following this, the supervisor assists the client to estab-
lish understandings, on a time and order scale, of the intimate rela-
tionships among the discontinuities, the quality of the action to be
taken, and the creation of an order of priorities in successfully
passing through each discontinuity. Therefore, there must occur:

C. Continuous Identification and Evaluation of the Outcomes
of the Above Described Processes With an Appraisal of the Degree to
Which Desired Goals Have Been Established and/or Reached.

Theoretically, the supervisor and the client have been continu-
ously exploring alternatives utilizing the environmental and/or
personal data recorded in the machine--human components of the "System"
as well as the expressed value system of the client. A product of this
exploratory activity is the selection of alternatives for further
examination. Then the supervisor, with the client, re-examines previous
data (review) and explores new data which are applied to limited alter-
 natives. This process continues, choices are narrowed until the client
feels comfortable with the final selection of a choice. This selec-
tion of alternatives with respect to specific activity goals is
facilitated by the rational decision-making process. It must be empha-
ized that during the above described process the supervisor serves
as an active participant. (Figure 1)

The Decision-Making Paradigm: Accommodation and Adjustment
to Decisions

So far we have discussed the first two stages of the decision-
Figure 1

CLIENT-SUPERVISOR-DATA BASE RELATIONSHIPS

Client becomes aware of discontinuities (machine-human) as problems requiring decision-making

Option to return

Client Exploration

Alternatives Generated

Client Review

Crystallization

Data Bases (machine-human)
Personal Values
Interests & Abilities

Supervisor (machine-human)

Option to continue

Client Review

Choice Data Bases (machine-human)
Review of previous info. plus assimilation of new info.

Supervisor (machine-human)

Option to return

Client Review

 Clarification Data Bases (machine-human)
Review Reflections on Choice & plans for implementation

Supervisor (machine-human)

Implementation & adjustment to choice

Awareness of new discontinuities and goals
making-paradigm: experiencing a discontinuity and making a decision about it. Let us now direct our attention to the third stage of the decision-making paradigm; the implementation of, and adjustment to, the decision made, involving induction, reformation and integration.

In this phase, "The individual field organized by the person's goal comes into operating interaction with society's (for example, school's or employer's) related but not identical goal and field."  

It is apparent then that during this phase, the individual will be engaged in some kind of group, collaborative activity. Induction occurs when the goals and reveries of the individual interact with those of society. The primary orientation of the person is a receptive one.

As this receptive mode changes to an assertive one, the person enters reformation. Having been accepted by the group as a participant in goal achievement, the individual then attempts to bring the group not only closer to its goal but also into greater conformance with his growing sense of identity. As the person effects a synthesis of his own goals with those of the more established members, he begins to function in the integrative phase. The identity of the person in this phase is influenced by the group goals while at the same time affects the development and implementation of these goals.

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5 Tiedeman, D. V. and O'Hara, R. P., op. cit., p. 43.

6 This pattern closely resembles the theory of "Interpersonal Behavior" of William C. Schutz who uses the terms "inclusion," "control," "affection," to describe interpersonal relations in a small group.
Ideally this integration occurs between the relatively confident identity of the individual and that of the group resulting in a series of compromises which facilitate the attainment of a goal and are neither destructive nor threatening to either element. If the individual believes these compromises to be overly threatening to his growing sense of identity, he may decide to abandon this particular group and their goals and/or find another group with similar goals whose methods of attaining these are more consistent with his own.

Role Acquisition: The Realization of Relationships

As the concept of differentiation and integration in the decision-making paradigm clarifies dynamic issues in the process of career development, so too does the concept of role acquisition help formulate relevant issues to the client as he works through the paradigm. It is posited that one can view attainment, or partial attainment, of goals as the assumption or acquisition of a role or set of roles. A person entering the decision-making mode adopts consciously or unconsciously means of achieving desired goals. This "modus operandi" takes the form of "coping strategies." These coping strategies determine the balance existing among the elements of entrepreneurial behavior, the priority established for achieving desired outcomes, and the methods of evaluating and processing information. The concept of role acquisition involves not only the selection of various coping strategies, but also the more general issues of the "life styles" of people seeking similar goals, and the relevance to the individual of previously achieved or attempted role acquisitions.
The judgments which an individual makes regarding the desirability of prospective life styles are a function in part of the conceptions he has of himself. Therefore, the more realistic and conscious his awareness is of himself, the more rational his judgments will be. It is also essential that he have opportunities to test the validity of these self concepts against objective measures of these aspects. Facilitating this is clearly the responsibility of the supervisor, indicating a need to examine in detail the assumption of appropriate role activity by an individual.

The first phase involves role perception. During this phase the individual begins to realize some of the implications (actual or imagined) of his various decisions. He begins to become aware of the interrelations among his various goals and the effects these may have on different aspects of his life. The individual sees a goal not as the end of a series of discrete discontinuities, but as a more or less complex pattern of interests, aptitudes and values. The degree to which he is impressed with his perception of the pattern which a certain role implies will influence his motivation for further scrutiny of it. The degree to which his perceptions agree with more objective perceptions of the role will determine the amount of re-learning he will probably need to affect during the next phase. Since there is the possibility of re-learning, one should not label all reverie as inappropriate activity.

If the person is engaged by the perception he has gleaned of a certain role, he is likely to move into the phase of role activity. Interaction with his supervisor leads to active involvement in those processes which the actual "consensually validated" role entails. It is incumbent upon the supervisor to ensure that the client takes active
initiative in response to as many individual components of the role as possible. Through this the client tests his perceptions against more objective criteria. It is suggested that testing of this sort occur through simulated role activity; e.g., games, and cooperative work/study experiences.

After the testing and evaluating of this activity phase prove sufficiently positive, the individual moves into the stage of role identification. Here he begins to internalize, making part of his "apperceptive mass" many of the understandings he has gained from the previous two stages.

In Polanyi's terms he has gained a "tacit" understanding of the role and incorporates this role as one dynamic aspect of his total life style. For example, rather than considering himself a scientist, he might better say that he is "sciencing." As Polanyi says: "...it is not by looking at things but by dwelling in them that we understand their joint meaning."

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7 A game may be defined as any contest (play) among adversaries (players) operating under constraints (rules) for an objective (winning, victory, or payoff). They always have the characteristics of reciprocal actions and reactions among at least partly independent entities having different objectives. Clark C. Abt, Games for Learning. Educational Services Incorporated, 1966, p. 5.


9 Kubie, Lawrence, Neurotic Distortion of the Creative Process, University of Kansas Press, 1958.

At this stage simulation is valuable with regard to specific problems. However, complete role identification cannot occur within the context of a simulated situation; real life experiences are essential in effecting this transformation...experiences which the supervisor plans with and for the individual.

The highly idiosyncratic nature of the process of role identification gives added emphasis to the validity of experiences. While the process of role acquisition is occurring there is simultaneous activity patterned after the decision-making paradigm of differentiation and integration. The interplay between the processes of role acquisition and differentiation and integration have significant mutual interaction. But perhaps the most significant influences will be those which role acquisition has upon differentiation and integration. The roles a person has acquired or partially acquired, and the understandings he has gained through these experiences, alter his perceptions of the kinds of discontinuities he sees as problems. These previous role experiences affect the new roles the individual perceives and his degree of sophistication in acquiring each particular new role. Concerning this latter point, the important understanding is that after a person has engaged in any role acquisition he will have at his disposal information which will allow him to enter a new role activity process with a broadened experiential backlog of information. This may be information of an explicit nature or part of the individual's "tacit dimension."

As does Polanyi, we too assume that without necessarily understanding all the individual components, the client gains the "essences"
of the role. The degree to which these essences are internalized by the client determines the degree to which "role identification" occurs. The client continues in the decision-making paradigm with a new perspective and again the supervisor focuses upon "walking the client" through this process. Alternatives are differentiated; integration among relevant elements within these alternatives occurs. As these relevant elements are sorted out and new alternatives selected, the client moves from exploration to crystallization to choice in relation to the responsibilities involved in new role activities.

On this spiral-like path through the above described processes, the client takes with him a residue of essences usable in developing understandings about future role perceptions, role activities, and role identification.

It is within a context of the critical aspects noted above that the supervisor stimulates activity and develops a base upon which with the client he creates the circumstances within which the client comes to view himself as the problem-solver, decision-maker. Thus is established a readiness for the components of the Think-Act duality.

Summary:

From the theoretical point of view which has been discussed, one realizes that a computer-based system which provides information to a client is not an autonomous entity. A machine-client interaction must be an integral part of the more general educational and social framework within which clients function. This framework prepares the client for the client-machine interaction and suggests an appropriate range of experiences necessary for a particular stage of career development.
subsequent to this interaction. Even within the client-machine interaction it is necessary to use information from sources which precede the machine experience and from the experience itself as it is occurring. The job of describing, effecting, and evaluating these articulations will be the subject of future statements. At this point, and with regard to future statements it is imperative we consider certain key concepts.

The supervisor facilitates within the client the development and utilization of an increasing apperceptive mass of essences permitting passage through the processes of perception, activity and identification in his current role.

It is incumbent upon the supervisor that he understand the environmental and personal data relevant for each individual client so that passivity and accidental role acquisition is minimized. Selection of the appropriate modality by which these data are made available to the client through interaction with other human and/or mechanized components of the system is, of course, a prime responsibility of the supervisor.

The goals of the project have been stated within the framework of the previous theoretical discussion. These theoretical constructs provide the framework needed for the supervisory mode to attain these goals. These constructs provide a perspective within which to view the supervision of career development and develop a language to describe it.

Of the possible categories we could use to organize and implement the supervision of career development, we will rely on the previously
discussed heuristic concepts:

1. Differentiation and Integration.
2. Career development as a series of discontinuities.
3. The Decision-Making paradigm as a description of a rational mode of problem-solving with regard to career development.
4. Paradigm of purposeful action.
5. Entrepreneurial behavior as a basic coping strategy.
6. The process of role acquisition (perception, activity, identification).

These concepts are related graphically by an adaptation of Tiedeman's life-line and decision-making paradigms. (Figure 2)

For example, within the vocational life-line there occur a series of discontinuities (V1, V2, V3). Each discontinuity is conceived of as a decision-making point, which to be experienced most rationally, will follow the decision-making paradigm. An examination of Figure 2 indicates that the "accommodation" phase of V1 falls into the same period of time as the "anticipation" phase of V2. It is also apparent that the "anticipation" phase of V1 falls into the same period of time as the "anticipation" and "accommodation" phases of E2. Therefore, the "coping strategies" used in relation to discontinuities within a single life-line affect not only each other, but also "coping strategies" in the other indicated life-lines.

The successive differentiation and integration which one goes through in any of his life lines will be most satisfactory to the individual if he has a sense of purposing to guide these and the ability to accept risk and become an entrepreneur...
direction and guidance growing out of joint supervisor-client relationship.

Role acquisition provides us with a concept which, for both the client and the supervisor, allows an organization of activity in each of the life lines toward a goal more general than the working through of separate discontinuities. The higher order construct will hopefully provide the kind of generalizing perspective necessary for the perception of the relationships which exist among a variety of vocational activities.

Given the preceding analysis and definition of the "supervisory component," it is now appropriate to attempt, in a subsequent report, a preliminary assignment of responsibilities of this component between the extrinsic and intrinsic supervisory elements of ISVD.