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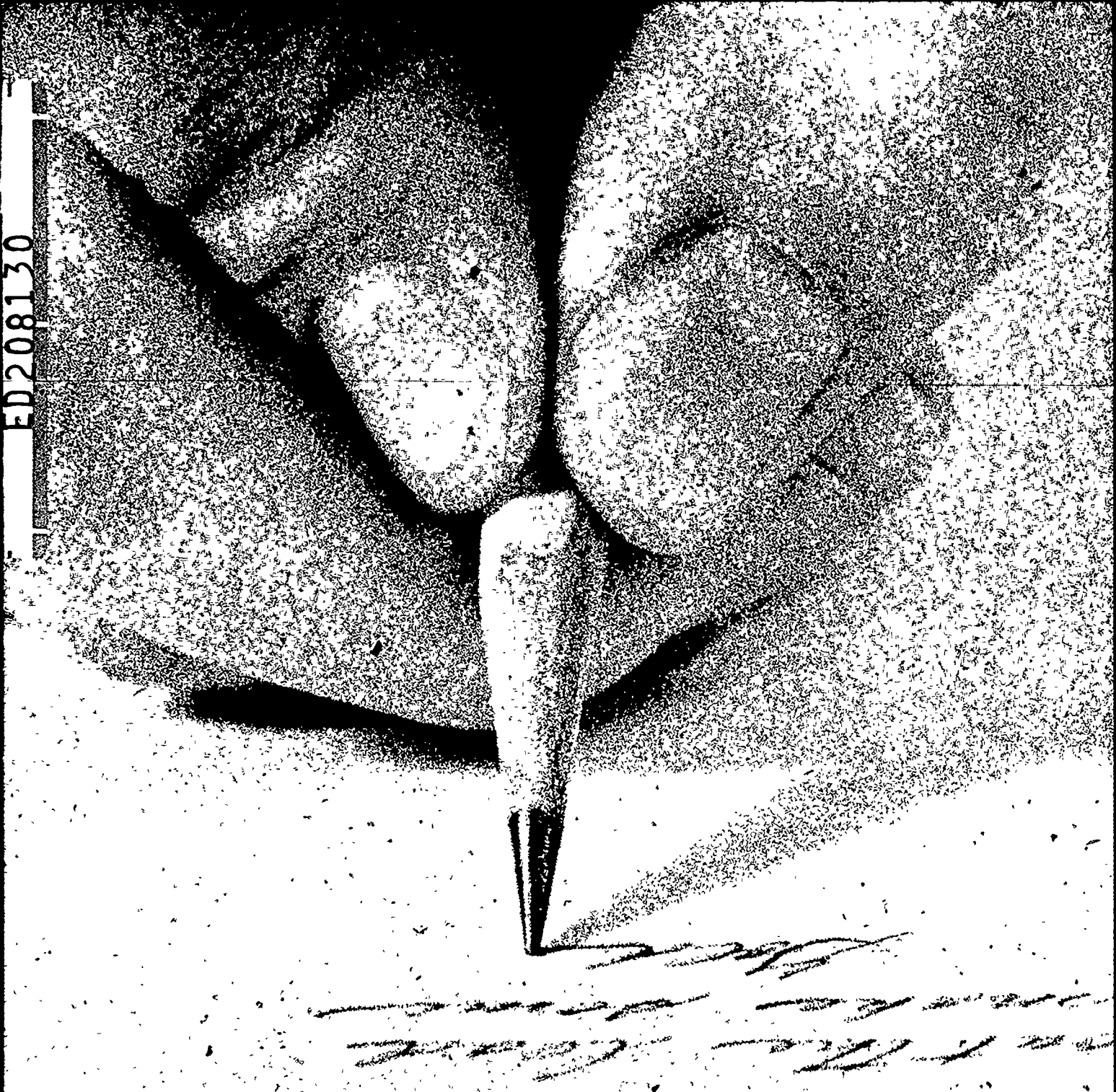
ABSTRACT

Knowing and understanding the principles and tenets underlying dissemination, utilization, and impact collection facilitate the "how." Dissemination is a communication process involving interactional relationships among individuals. Involvement of multiple agencies gives rise to networking. Disseminating is also a major facet of planned change, one stage of which is acquisition--a concern of the National Network for Curriculum Coordination in Vocational and Technical Education (NNCCVTE). The concept of utilization demands that both product and process impact assessment be considered. Nine major problems hinder the acquisition of sound impact data: problems in aggregating data, the myth of theory, inaccurate or incomplete specification of an instructional model, error of measurement, inappropriateness of certain models, neglect of the dissemination component by instructional materials developers, by neglect of the communication systems model, variations in source credibility, and improper funding for dissemination activities. NNCCVTE dissemination personnel concerned with impact assessment must focus on these questions: Are minimal conditions present for impact to occur?, What factors are important in determination of program consequence?, Are followup studies important?, What is the place of experimental designs?, What are major purposes of impact assessment?, and What facts influence impact data in program planning based on manpower data? (YLB)



NNCCVTE Occasional Paper Series

2

State Dissemination Planning As Part of Program Improvement

James E. Wall

2 The National Network for Curriculum Coordination in Vocational & Technical Education

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State Dissemination Planning As Part of Program Improvement

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THE OCCASIONAL PAPERS SERIES

Emerging from the 1980 Director's meeting of the National Network for Curriculum Coordination in Vocational and Technical Education (NNCCVTE) was the idea for publication of an Occasional Papers Series. The purpose of the series is to present ideas and conclusions relevant to current curriculum concerns in the field of vocational education and it is felt the collection will become a permanent contribution to that field.

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STATE DISSEMINATION PLANNING AS PART OF PROGRAM IMPROVEMENT

by

James E. Wall

When I was approached about preparing a presentation on **dissemination, utilization** and **impact collection**, the assignment given me stated that personnel of the National Network for Curriculum Coordination in Vocational and Technical Education (NNCCVTE) have been much concerned about the various states' capacities to disseminate R & D outcomes, particularly the curriculum materials resulting from our vocational research efforts. Furthermore, the assignment given me indicated that:

> *"We would like your remarks to address dissemination and utilization issues and particularly the issue of impact collection"* .

The assignment further stated that NNCCVTE personnel are all aware of the imperatives of these two major priorities. Also, the assignment states that, to date, little had been shared with NNCCVTE personnel in regard to **how and where to start** in these areas. I was asked to share any findings which would be useful to the NNCCVTE group and which could be applied in a consistent manner. Finally, the assignment clearly indicated the NNCCVTE personnel were seeking ways which would permit the collection and aggregation of data across states in regard to dissemination, utilization and impact collection, or D-U-IC for short.

At the outset I need to stress that this paper is more an adventure in the "why" than the "how" of dissemination, utilization and impact collection, or D-U-IC. Specifically, this paper will stress the principles and tenets underlying D-U-IC more than it will the particular dissemination and utilization steps and activities which usually always vary greatly in given situations because of differing administrative structures and management styles. The reason I do this is that we must recognize that we cannot just go around willy-nilly, moving an innovation or a curriculum materials package from one place and putting it down in another, without having sound insights and knowledge of the way in which the material interacted with its developmental environment, and how it is likely to interact with its new proposed environment, as well as how it is apt to interact with other related materials that already are in place in its proposed new home. In other words, it is not merely a matter of our playing out the role of a disinterested "technocratic" type of manager. It is a matter of knowing what we are doing in dissemination and how what we do fits into the overall efforts that are focused on vocational program improvement. It is a matter of knowing that what we do in dissemination takes a great degree of skill in a number of activities that draw upon competencies embodied in a variety of disciplines and sub-disciplines. What we do also takes time and funds. And, just as importantly, what we do frequently demands that the SLRs have a thick skin, especially when our budget and manpower requests are ignored by our administrative superiors and our grant applications are turned down by decision-makers at the federal level.

My contention in this paper is that the "how" of D-U-IC can be better facilitated by knowing and understanding more about the "why." As a result, I will probably be making reference to concepts like the **planned change process, change agents, networking, diffusion theory, curriculum development models, activity impact measures, perceived versus measured reasons accounting for successes, dissemination models, communication models** and many others. I may use these terms somewhat loosely and the meanings I attach to them may not coincide with the meanings found in the literature. Nevertheless, the general purposes of this paper should become evident as the reader progresses.

Dissemination Overview

Any dissemination effort or strategy is first and foremost a type of **communication process.** Dissemination involves interactional relationships among individuals. In the case of the NNCCVTE, dissemination requires that action be initiated from some kind of administrative or organizational structure or structures, such as a local vocational program or a state vocational division or department. Or, the action may be initiated from the top down — the "administered" or "blueprint" approach — that is typified by strategies used in the National Diffusion Network. Structure, then, denotes multiple levels in some type of hierarchy. To add to the complexity of the dissemination process that is characterized by the NNCCVTE, we must recognize the necessity for interactional relationships and communication between and among multiple agencies, which give rise to the concept of **networking.** For more insight into communication within and between organizations, the reader is referred to *Communication in Organizations* by Everett M. Rogers and Rekha Agarwala-Rogers, the Free Press (1976).

Dissemination also is a major facet of the process of **planned change.** The prime mission of the NNCCVTE, at least as seen by this writer, is to aid vocational educators in acquiring resources (the concept of **acquisition**) for program improvement. NNCCVTE personnel, of necessity, must be change agents skilled in change agentry which is a helping relationship. For more insight into planned change and the place of acquisition as a stage in planned change, the reader is referred to *The Change Agent's Guide to Innovation in Education* by Ronald G. Havelock, Educational Technology Publications (1973)

Havelock describes six stages of planned change. (1) building a relationship; (2) diagnosis; (3) acquiring relevant resources, (4) choosing the solution, (5) gaining acceptance, and (6) stabilizing the innovation and generating self-renewal. To be an expert change agent, one must become skilled in all six stages of the planned change process. One must be able to see this process as it is applied in his/her organizational structure. If the planned change process does not exist in his/her organizational structure, then one must determine the best strategies for helping to apply it.

Since the NNCCVTE is most concerned with **acquisition,** it seems wise to briefly describe in some detail the acquisition stage of Havelock's model, although the remaining stages also are extremely important. Havelock reminds us that resources come in many forms, such as print or graphic materials, people or products. In a helping relationship, one must understand what has occurred — developmentally, what is available, and what is potentially relevant and useful. He also indicates that acquisition is a three-part problem. diagnosis-awareness-"homing" in on relevant resources. Techniques for acquiring diagnostic information are described in detail. Havelock presents **awareness** — "what's out there" — as the key to an intelligent overall acquisition strategy by describing how to build and maintain awareness of the "resource universe." I would guess that this is the point at which the NNCCVTE makes its most vital contribution in the dissemination process. Finally, Havelock suggests a "homing-in" strategy in a six-step sequence: (1) overview from written source, (2) overview from knowledgeable person, (3) observe "live" examples; (4) obtain evaluative data; (5) obtain innovation on trial, and (6) acquire a framework for evaluation-after-trial. Many of us perform this six-step sequence almost unconsciously.

Impact Assessment

With the above brief overview of dissemination and its relationships to communication and planned change, we turn now to impact assessment. For our purposes here, impact assessment must be defined and possibly confined. Perhaps we need to determine whether to focus on the measurement of impact of that (product) which is disseminated, or the impact of "in-place" activities (process) of the NNCCVTE. The concept of **utilization** demands that we consider **both,** especially if we adhere to good systems theory which demands features like "closed loops" and "feedback."

Before raising a lot of questions about product/process impact assessment, we need to look at some

of the major problems that hinder the acquisition of sound impact data. A few of these problems are briefly discussed here, some relate to product impact assessment and some relate to process impact assessment:

1. Problems in aggregating data. Aggregation of data tends to cloud the picture sometimes instead of clarifying it. For example, variables that express individual peculiarities may be missing, whether the unit of analysis is a person or a program. Individual peculiarities exist among students, among teachers and teacher behaviors, among programs and program components, and among instructional materials and their components. Problems of this nature relate more to product than process impact assessment.

2. The myth of theory. Most instructional materials, curriculum packages, or curriculum programs have been developed according to some instructional design theory or learning theory. It needs to be recognized that a theory is necessarily incomplete, an abstraction cannot explain everything. For example, during development a variable may have been inadvertently omitted that does affect an objective variable in the instructional materials. This omission would influence impact of the materials product. Similarly, omission of a key variable, such as ignoring advocacy-building, in the dissemination of the same instructional materials would influence the impact of the dissemination process.

Furthermore, it often seems that a theory becomes accepted and acceptable merely because of its place in a textbook and its continued repetition and recognition by its proponents who lay claim to being objective-minded. Often, repetitious use of a theory is a foible of scholarship. For example, one common and natural phenomenon is the repetition of theories or hypotheses once posited. In education, as in other fields, what begins as a very tentative guess often becomes by repetition an assumed fact and represents "the consensus of scholarly opinion."

3. Inaccurate or incomplete specification of an instructional model. Impact will be influenced if a given set of instructional materials or a curriculum package is not based on a proven (field tested, validated, widely recognized and accepted) development model, or if they are based on components from several models, or if based on only one component of a given model.

4. Error of measurement. Measures must be taken if impact is to be determined, and impact will be largely influenced by human behavior. Evenif human behavior were exact — and it isn't — measurement methodology is not, especially survey methods, opinionnaires, and the like. And, even experimental designs have many shortcomings when used in impact studies, whereas in evaluation studies such designs prove to be somewhat more acceptable. (This raises the question of differences between evaluation studies and impact studies, which may be partially explained in an oversimplified way by saying that evaluation studies focus on measured changes in individuals as a result of being exposed to a curriculum, whereas impact studies focus on the changes in society and longitudinal effects on individuals being exposed to a curriculum. The concept of **causality** rears its ugly head here.)

5. Inappropriateness of certain models. Process models are the main consideration here. Some years ago when dissemination, diffusion, planned change and innovation were just beginning to be studied, the **linear model** was used to depict such processes. This was probably true because all communication models in vogue at the time also were linear. Linearity oversimplifies reality. A linear model does not include the concept of **feedback.** On the other hand, a **systems model** does. The systems model denotes **process,** or cyclical actions, that is, a continuous sequence of actions through time. Depiciting dissemination-utilization as a linear model does not portray the interactional complexity of the elements in the process. Linearity precludes the possibility of identifying the forcing quality (the way in which the cause X acts on the result Y) that is part of the inherent nature of X and Y variables. Dissemination research, and thus, impact assessment, probably should look to theoretical reasoning instead of empiricism to determine why certain variables might have a forcing quality on others. Linearity demands that dependent and independent variables be identified, which is often futile in dissemination and com-

munication studies. An independent variable in a model can be changed or altered (source, message, channel, receiver); whereas the dependent variable consists of the measured effects of the action. The pertinent variables in a dissemination model may be interdependent; that is, each is a cause as well as a consequence of the others. Reality shows them to be a **system** of variables in mutual interaction. However, the reality of dissemination models currently in operation is that they probably tend to be more linear than systems oriented in character. One can readily see that this becomes a frustrating problem in designing impact studies.

6. Instructional materials developers have, by and large, neglected the dissemination component. Curriculum developers or instructional materials developers are notoriously naive about and usually misunderstand dissemination processes and problems. The result is that it is difficult to assess the impact of either the curriculum package or the dissemination process. Dissemination must be considered during development of materials if meaningful impact measures are to be obtained.

7. Most dissemination models ignore the communication systems model. Dissemination, like communication, is a multivariable, dynamic interplay of numerous elements. Impact study design must allow one to consider the over-time aspects of dissemination. Impact studies must go beyond the immediate changes and include the longitudinal effects of both product and process.

A hypothetical situation seems useful at this point. Suppose, for example, the **message** variables are altered to measure the outcomes or effects on receivers of the message. That is, a similar message containing a fear appeal may be presented to a test group, but not to a control group. More specifically, one group of vocational instructors may be told that unless their output of competent trainees increases, their school will not continue to be supported and they will ultimately lose their jobs. Another (control) group might be told of forthcoming increases in salaries and perquisites if similar production is raised. You can speculate what the responses to the two different messages might be.

This introduces the concept of instructor incentives. Should instructors receive extra compensation for being innovative, for installing competency based curriculum materials, for attending dissemination conferences where not only products are presented, but also process stages and strategies? If extra compensation is initiated, how should it be handled? Could, for example, an instructor's salary be increased $5 per month if he/she attends a dissemination meeting on new and innovative materials, increased more if the materials are installed? (If this sounds outlandish, remember that most salary schedules include incremental increases for advanced degrees; why not for attending inservice sessions?) Finally, if such a strategy is used, how can it be evaluated and how can its long-range impact be assessed? For after all, if initiated it suddenly becomes a component of the dissemination model, and as such is subject to evaluation and/or impact assessment.

8. Variation in source credibility. One of the most difficult problems to deal with in impact assessment is variation in source credibility. This is especially crucial in product impact assessment, but also is problemmatic in process impact assessment. Sources from which instructional materials emanate vary greatly in credibility. Hence, impact studies of materials must consider this factor when the study is being designed. Credibility has many dimensions, such as experience and prestige of the developing agency, the extent to which the source has validated and field-tested the curriculum package prior to publication and release for dissemination, the reliability of the theoretical underpinnings of the instructional systems model that was followed during development, and others.

9. Improper funding for dissemination activities. Apparently when funds are allocated for dissemination, the decision-maker in his infinite wisdom compares dissemination of vocational curriculum materials with public relations activities. The most expensive part of any news or public-relations operation is the staff time (writer's time and source's time) spent on the initial copy. Replaying, repackaging and mailing the resulting materials is less than 20% of the total cost. This is not the way it is

for dissemination since this step may cost many times what the developmental costs were, especially when inservicing costs are taken into consideration. One surely should add costs of making impact assessments to the total, if not to the dissemination stage alone.

Finally, most problems surrounding impact assessment fall into one or more of the following broad categories:

A. Lack of a process orientation.

B. Ignoring or disregard of mutual causality among model elements in the dissemination process.

C Focus on the individual (person or program) as the unit of analysis instead of focusing on the interrelationships and interdependence between persons involved in dissemination and concomitant communication processes.

D Too frequently we have only a linear dissemination model in operation, but we keep trying to design our impact studies of the dissemination process along systems model lines.

Summary

NNCCVTE personnel have an obligation to know their clients, to help diagnose their needs, to establish communication in dialogue form or exchange, to become knowledgeable and aware of the "resource universe," to establish and maintain acquistion procedures and networks, and to engage in impact assessment. These are complicated undertakings, and yet they constitute only a few of the things that dissemination personnel are required to perform.

In performing all of these things NNCCVTE personnel, especially SLRs, must continually ask themselves the following kinds of questions:

1. **ARE MINIMAL CONDITIONS** present for a particular change, innovation, or instructional package to take hold? Is the school environment conducive to "take" of the materials? Is the school ready? What are the dimensions of being ready? Are the instructors and other personnel prepared? Have the instructors, principals, administrators, counselors and other personnel formulated themselves into self-supporting and self-renewing teams?

2. **ARE STUDENT COMPETENCE** and placement important factors in impact assessment and determination of program consequences? Are instruments, such as those from the National Assessment of Educational Progress (NAEP), available and accurate enough for assessing job knowledge and labor market skills, and what is their role in impact assessment? Are other benefits of vocational programs, such as enhanced self-esteem, important to impact assessment? How important are the following in impact assessment: (a) timing of the follow-up upon which the data are based; (b) method of data collection — from students or from teachers and counselors, (c) training relatedness, and (d) economic conditions facing graduates as they enter jobs, change fields, or relocate?

3. **ARE FOLLOW-UP STUDIES** of program completers and leavers important to impact evaluation? Do systematic follow-up activities offer indications of impact of curriculums and programs on the post-program lives of participants, and do they offer possibilities for determining long-range impact on society and the economy? Can measures of preparticipation in a curriculum, such as background, preexisting differences, etc., be correlated with postparticipation or outcome data for use in enhancing impact assessment? How relevant are the methodologies and data of the NIE National Longitudinal Surveys to impact assessment?

4. **DO EXPERIMENTAL DESIGNS** have a place in impact assessment? Can component variables in the dissemination process be experimentally altered in an effort to determine such things as "forcing quality," i.e., which variables are most important in successful dissemination (the cause-effect issue)?

5. **WHAT ARE THE MAJOR** purposes of impact assessment?

A. To improve vocational education programs.

B. To satisfy accountability needs.

C. To fulfill requirements of legislation.

How do these purposes influence impact study design? Should impact assessment be confined to major efforts conducted at the national level in longitudinal studies, or should impact assessment be carried out at state and local levels? Does the previous question relate to problems in aggregating data? Can management information systems currently being used contribute to impact assessment? Do management information systems hold promise in forming the basis for longitudinal files that would contribute to impact assessment?

6. **IN THE AREA OF PLANNING** of programs based on manpower data, are impact data unduly influenced by such facts as: many occupations (clerical, allied health, and service) have high turnover characteristics because of abnormally low rates of pay, students continue to enroll in vocational courses other than for vocational reasons; and projected net openings are used to the exclusion of other data such as entry-level wages, wages at seniority, student interests and propensity to relocate, job satisfaction of occupational incumbents, employer and job entry requirements, program costs, etc.

In summary, it seems that persons concerned with impact assessment must focus on determining what works, for whom, under what conditions, and all the possible outcomes. Persons conducting impact assessments must recognize: (1) that they are studying intervention strategies; (2) that these intervention strategies cause intended and unintended results — some desirable and some not — which result in a wide range of consequences to be assessed; (3) that any attribution of result to cause requires sophisticated methodology which may or may not be readily available; and (4) that how outcomes occur or fail to occur is needed to be known for making decisions on both successful programs and those needing improvement.

Although an exemplary impact assessment design is not contained in these pages, there is information here that should prove useful in designing and conducting impact assessments of dissemination processes.

About the Author

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