

# Instructional Development in Developing Nations



Dennis D. Gooler  
*Director, Division of Educational  
Development and Administrative  
Studies*  
*Syracuse University*  
*Syracuse, NY 13210*

## Introduction

The purpose of this paper is to examine some critical issues concerning the use of educational program evaluation and instructional development in developing nations. Many of these nations are working desperately to overcome deficiencies in their educational systems, deficiencies which have both short- and long-term impacts on economic, social, cultural, and political structures. Various forms of technology (e.g., television and radio) are being tried by some nations as one possible approach to improving educational systems; evaluation and instructional development (themselves technologies) are much discussed as part of this overall reform effort.

Issues related to educational reform are complex in any setting, but perhaps even more so in developing nations. This paper addresses a subset of the more global concept of educational reform: What happens when process technologies such as instructional development and evaluation are introduced into a rapidly-changing milieu such as found in a developing nation? The paper outlines issues that bear further examination in the use of instructional development and evaluation in developing institutions.

Much of the impetus for this paper derives from work done by the author and others with Educational Radio and Television of Iran (ERTI), an agency which qualifies as a rapidly-developing institution in a developing nation. ERTI is charged with providing a wide range of informational and educational services, primarily through radio and television.

ERTI also conducts extensive training programs and nonbroadcast educational activities. The staff has grown from about 35 employees 4 years ago to its present size of about 400 employees. While many of the examples presented herein are drawn from work at ERTI, it is assumed that the points discussed in this paper are applicable to other institutions in other nations.

Before examining the specific characteristics of instructional development and evaluation, I will briefly outline terms to be used in this paper and mention the more global concept of which this paper represents one aspect: transfer of technology.

## Terms

*Instructional development (ID)* is a term which has only recently entered the parlance of American education, particularly higher education. There is debate as to whether the term represents something new, or whether it is merely a new term to describe what many educators have always done. Durzo (1976) reviewed many of the existing definitions of instructional development. He concludes that, in spite of a variety of definitions, there is agreement that instructional development implies some sort of systematic approach to the design or improvement of instruction. He prefers the definition of instructional development proposed by Gaff (1975):

Instructional development is a recent academic specialization that may be defined as the systematic and continuous application of learning principles and educational technology to develop the most effective and efficient learning experience for students. (p.47)

This will be the definition of ID used in this paper.

*Evaluation.* Like ID, "evaluation" has been defined in various ways. In the late sixties and early seventies, a number of

seminal papers emerged that were to broaden the working definitions of evaluation. (See especially Cronbach, 1963; Stake, 1967; Scriven, 1967; Stufflebeam, 1971; Provus, 1972.) While it is beyond the scope of this paper to explore each of these papers in depth, it is useful to identify some common themes or elements that predominate this generation of thought about the nature of evaluation. Grotelueschen, Gooler, & Knox (1976) identified these common elements as:

Most definitions call for thorough *descriptions* of educational programs. On the surface, this seems rather trivial. However, much evidence and experience suggest that describing any educational program is a difficult task and, furthermore, that those people actually working with a program frequently cannot see the program in its entirety.

A thread of *judgment* also runs through most of the definitions. Evaluation is intimately associated with value, and many definitions recognize the need for someone to make judgments about educational programs.

Finally, most definitions of evaluation suggest that the purpose for conducting an evaluation is to provide important information for those who must make *decisions* about educational programs. (p. 19)

These common themes are important in understanding issues associated with the introduction of formal evaluation practice into a developing institution, particularly the third element, which asserts that the purpose of evaluation is, as Stufflebeam (1971) and his colleagues have pointed out, to delineate, obtain, and provide useful information for judging decision alternatives.

Finally, it may be useful to explore the meaning of the term *developing institution* and/or *nation*. The term may have limited usefulness for, in many respects, *all* institutions or nations are *developing*, and thus the term does not inherently discriminate among institutions or nations.

In general, a "developing" nation or institution is defined as an entity that has not as yet achieved for itself the technological, economic, educational, or social standards available to or held by other more developed nations. In many instances, a developing nation is that nation making progress toward adequate food, housing, and educational opportunities for its people; achieving a standard of wealth that gives it accompanying political power; and/or introducing the means (usually

technological) whereby most of its people can move beyond subsistence living to greater "quality of life." Developing nations are characterized by rapid changes, often accompanied by social or political unrest.

It is interesting to note the biases attending our sense of national development. We make certain assumptions about the nature of the "good life," and about what constitutes the most desirable way to live and to govern our lives. Some of the claims for "progress" may be questionable. Rapid progress, for example, almost always means accompanying pollution of the environment, as well as changes in individual and national values and motivations. Progress as defined by Western societies is not universally positive, yet is often strived for by developing nations.

For purposes of this paper, a developing nation or institution might be further described as an entity investing major resources in pursuing some ends thought at any moment in time to be worth pursuing, *and* an entity that has not yet achieved a "state-of-the-art" status. No attempt will be made here to assess the worth of the ends being pursued by that entity (although such an assessment must surely be made by any individual considering providing his or her expertise to that entity).

#### Transfer of Technology

Issues about the use of the technologies of evaluation and instructional development in developing institutions and/or nations are instances of the larger issue of transfer of technology, or the diffusion of innovations. Developing institutions tend to be importers more so than originators of technology and are thus vitally concerned about transfer of technology issues.

Gilmore (1969) defined technology transfer as:

A purposive continuous effort to move technical devices, materials, methods, and/or information from the point of discovery or development to new users.

This concept of technology clearly encompasses the methods (processes) of instructional development and evaluation and affirms that attempts by developing institutions to use these methods are indeed instances of technology transfer.

A variety of "models" of technology transfer have been proposed. Essoglou

(1975), for example, suggests that four formal and five informal factors influence movement of technology from the source of knowledge (supplier) to the utilization of knowledge (user/receiver). These factors include:

#### (a) Formal

- The method or form of documentation of the technology
- The methods of distribution of the technology
- The formal organizational structure of the user
- The process whereby the user selects projects or technologies

#### (b) Informal

- Capacity of the receiver to use the technology
- Informal "linkers" in the receiving institution
- Credibility of the technology (and the source) as viewed by the receiver
- Perceived reward to the receiver
- Willingness of the receiver to be helped

Each of these factors can affect how or if a technology will be successfully transferred.

Case studies of attempts to transfer technologies have led some researchers to posit certain hypotheses about what hinders or enhances successful transfers. Niehoff & Anderson (1964), for example, advance the following hypothesis based on case studies in community development and animal husbandry:

When a felt need and a strong practical benefit exist, along with the willing cooperation of recipients for planning and implementation, other negative factors such as a lack of awareness of the local cultural patterns on the part of the innovator, lack of continuity, and non-utilization of the local economic patterns will be effectively counter-balanced. On the other hand, when no strong practical benefit or felt need exists, along with a lack of real voluntary participation, the project cannot succeed, even if initially accepted through novelty and reward motivations and even if the innovator is willing to alter his project in order to meet unforeseen conditions.

Most, if not all, of these factors can be shown to influence attempts to transfer the technologies of instructional development and evaluation. The observations made in subsequent sections of this paper tend to be specific instances of these more general principles.

Of the factors listed above, the human dimension of contact between sup-

plier and user seems particularly critical. Recognizing this, Essoglou (1975) focused his efforts on a study of linkers, those individuals making key decisions about adopting technological innovation. Rubenstein (1976) stressed the critical importance of human contact and trust between supplier and receiver. Havelock (1973), in his work on innovation and change, emphasizes the need for careful attention to building relationships. The importance of this personal trust level has been borne out repeatedly in the experience of the author, not just in the transfer of a single technology, but in establishing the general climate for growth.

Another critical factor in most technology transfer situations concerns the "goodness of fit" between the characteristics of the technology (including inherent assumptions about its use) and the characteristics of the setting into which the technology is being transferred. This topic has been the subject of considerable debate on economic, cultural, moral and feasibility grounds.

Mead (1946), for example, argues that attempts to export notions of Western education must be done with a thorough understanding of the culture in which those notions will operate. She underscores the importance of understanding character structure—those regularities in the behavior of people which can be attributed to their having been reared in a common culture—in shaping the acceptability of new ideas and thus in determining what technologies *ought* to be transferred. This point will be touched on again in the next section of this paper when the issue of education tradition is examined.

Tendencies are strong, particularly in the commercial sector, to sell products or procedures with little responsibility for determining the readiness of the receiver to appropriately use the products. Only when the use or misuse of the products might negatively impact on the *supplier* of the product, such as might occur if highly sophisticated military hardware purchased by a developing nation fell into enemy hands, is the issue of parameters on sale of products seriously considered. Educational products or procedures do not fall in this category.

The issue is complex, however. Neil (1978) captured the sense of the potential dilemma:

Although some countries comprising what is sometimes referred to as the "Third World"

have certain characteristics in common, for example, those largely associated with low per capita incomes, grossly inequitable distribution of incomes and so on, they also have marked differences which richly influence their patterns of development in vital ways. These include deeply ingrained cultural and social customs, religious beliefs, potentials for economic growth, political alignments, educational bases, ethnic differences and so on. Even so, modern communication systems and the interdependent nature of contemporary international trade and politics mean that they are becoming more and more part of a single world with all other countries. Consequently, a country can no longer be master of its own fate independently. In such a situation, and in the conviction that repeatedly reinventing the wheel is a futile pursuit, the value of looking at, and learning from, systems of various kinds in other countries is well-established and generally appreciated.

The remainder of this paper is essentially an examination of a particular problem in technology transfer, namely the transfer of process technologies.

#### Characteristics of Evaluation and Instructional Development

Both evaluation and instructional development are defined in a variety of ways, each possessing a number of unique characteristics that help to define the concepts. Both concepts also make certain assumptions about the conditions under which they are to be implemented in practice. This section of the paper outlines four such assumptions that have particular relevance to the implementation of these concepts in a developing institution and describes some of the characteristics of developing institutions that impact on the transfer of these technologies.

#### Examination of Tradition

One of the characteristics of developing institutions, particularly in developing nations, is that of rapid change. These institutions may have no discernible historical pattern of growth other than a pattern of rapid change. However, the broader social milieu in which these developing institutions operate contains a long history or tradition. This is particularly true with respect to the tradition of education in a developing nation. In Iran, for example, there is a long tradition of rote memorization being a central component of formal education. Mead (1946) offered several additional examples of the impact of tradition on methods of education:

(a) In Samoa, parents were ashamed when their children were skipped ahead a grade in school because precocity was deprecated. Tradition demanded that the first to enter school must also be the first to graduate.

(b) Among the Dakota Indians, it was considered rude to give an answer in the presence of someone who did not know an answer.

(c) In caste societies, if a low caste learned a skill first, a higher caste might decide the skill was not worth doing and if a high caste learned the skill first, a lower caste might conclude the skill was too difficult and not attempt to learn it.

Mead (1946) goes on to give examples demonstrating the subtler ways in which tradition affects how a culture learns about the world. A rigid moral code (as is held by the Manus tribe in the Admiralty Islands) that affixes individual responsibility to wrong-doing may make cause-and-effect relationships in science easier to grasp. Sensitivity to failure (as in Japan) can be an obstacle to some methods of instruction. Reverence for authorities (as in China) can preclude independent thought. People who are previously illiterate may be handicapped by a very short attention span in the school environment making intelligence testing extremely difficult.

These traditions thus carry with them certain assumptions about how education is most effectively conducted, how people learn, and what is most important to learn. Traditions are deeply ingrained in educational systems themselves, and, in particular, the bureaucracy that supports those systems.

Both instructional development and evaluation tend to stress a reexamination of basic assumptions about appropriate content and processes of education. Evaluators talk about the need to examine the rationale underlying the program being evaluated (Stake, 1967). Most instructional development models include as a first step in the development process a needs assessment. Some of the models [e.g., Banathy (1968); Stowe (1971)] focus needs assessment efforts on the learning needs of individual students. Needs assessment procedures in some other models [e.g., National Special Media Institute (1971); Gustafson (1971)], and in much of the literature in curriculum, examine broader social needs as a starting point for determining educational and social priorities. Both kinds of needs assessment are basically aimed at understanding dis-

crepancies between where the individual, institution or nation presently is, and where it would like to be (Kaufman, 1972). These assessments tend to require some consensus about what goals ought to be pursued, and agreement as to the present status of things. These are not easy assessments to make, in part because consensus on goals among diverse peoples is difficult and because determining present status is dependent on the adequacy of national information systems. These information systems are often totally inadequate or absent in developing nations. The very act of conducting this kind of needs assessment may result in public tension over the purposes of education, often at the broadest level. Tradition is tradition because it has held for long periods. People may be resistant to alterations in basic traditions, such as the tradition of certain conventions of education.

Instructional development and evaluation processes, conducted at a micro level, are unlikely to result in serious re-examination of the basic purposes of education. The kind of thinking demanded by such processes, however, applied at a more macro level, can have such consequences. Determining the programming direction for ERTI, for example, represents a situation of possible long-term impact. Because of its mass-media nature, ERTI has a potential for affecting the lives of many people. To the extent that ERTI chooses to serve the needs of one segment of the population as compared to some other segment, benefits may be unequally distributed. Furthermore, *what* ERTI chooses to broadcast will have differing consequences. ERTI operates in a context, as do many developing nations, where some parts of the population argue that modernization is occurring too fast, while others argue development is too slow. Education's place in this kind of religious, cultural, and economic setting is thus ambiguous. Attempts to do needs analyses inevitably involve traumatic assessments of tradition.

It is possible, of course, for an instructional development process to go forward *without* a searching examination of content and processes. That is, an instructional developer could simply accept existing goals for education and work toward better means of achieving those goals. In many respects, however, this is antithetical to the spirit of instructional development. To be sure, the developer cannot and should not have the

final say on what goals are to be pursued. It is the responsibility of both the developer and evaluator, however, to raise clarifying questions about the ends being pursued, and about the appropriateness of instructional processes selected to achieve those ends. For many developing (and developed) nations, this systematic analysis of means and ends will cause a great deal of uncomfortableness.

#### A Stability of Ends

Clarification of educational goals and processes can thus be a long and painful process. Once some clarity has been reached about intentions, the next stage in the instructional development process can commence. Most instructional development models assume a basic stability of ends. That is, once goals have been determined, the development process is geared toward finding the best means to accomplish those goals. Developers argue that the linearity suggested by flowchart representations of the development process does not in reality occur, but nonetheless some stability of ends is assumed.

One of the characteristics of rapidly developing institutions, however, is that ends do not remain stable. In many instances, drastic shifts in purpose and direction occur, often totally beyond the control of the managers of the institution. External forces often dictate abrupt changes in the intentions of the institution. In a situation where desired ends and priorities for an institution keep shifting, it is extremely difficult to implement a systematic process of development and evaluation.

Consider the following situation:

*An agency charged with educational radio and television responsibilities gears up an instructional development effort to create programming suitable for use by teachers in the nation's elementary schools. Developers, evaluators, producers, and content specialists are brought together in teams to create this programming. Major start-up costs are involved, including resources necessary to adequately establish the needs for this programming, to make selections among content alternatives, to arrive at consensus about the appropriate pedagogy for this program, etc.*

*It takes a considerable amount of time to get this effort moving, particularly since the institution may not have a great many people trained in these activities. At some point, the team be-*

*gins to outline and produce some programming. At about that point, however, the government decides that educational television would be more effectively used in reaching adults who are not enrolled in the formal education system of the country. Consequently, the message is sent to the educational television agency that it should change its focus and begin immediately to work on programming for out-of-school learners. Thus, the entire effort that has just gotten underway must be scrapped and a new effort begun.*

*Unfortunately, few of the lessons learned in gearing-up for elementary school programming seem to hold when gearing-up for out-of-school learners. Therefore, the process must begin anew. It is entirely possible that some months down the line, additional pressures will be brought to bear on the educational television network which will cause it to once again change its direction. It is this instability of ends that makes it extremely difficult to implement a systematic instructional development process in that setting.*

It could be argued that the basic instructional development process occurs in the same way even when the ends of the institution keep shifting. While the process might essentially remain the same, a loss of morale among staff may occur. Instructional development and evaluation are both rigorous processes that require certain levels of training and a commitment to thoroughness of purpose. When developers and evaluators are not able to complete the task they set out to do, they will become disillusioned with their activities. Instructional development processes may appear to be too cumbersome, or not worth the effort, when the development tasks are never completed. Staff members may thus be reluctant to carefully implement the stages of a systematic instructional development process, thinking that it will never amount to anything.

In a developing institution, the process of instructional development becomes somewhat akin to the process of educational planning in general. Educational planning is subject to many of the same kinds of frustrations described above. For example, Ruscoe (1969) describes some of the political constraints on educational planning. These constraints sound similar to those operating on the instructional develop-

ment and evaluation process in developing institutions. He argues that there are four primary constraints on good educational planning:

1. *The fusion of political and technical decisions.* Developing nations face many technical decisions having to do with the expansion and development of educational programs. For example, technical decisions must be made about the relative costs and benefits of selecting alternative educational media (UNESCO, 1977); or about the most effective structures for delivering educational services to adults (Lowe, 1975). These same nations have complex political structures within which education functions. Key appointments in the education structure are often political appointments; the holder of these positions is often put in the situation of having to make both political and technical decisions. These decisions may be fused together in ways making it difficult to ascertain whether decisions have been made primarily on political or technical grounds. Consequently, issues such as the selection of programming directions for an educational television network may be made on both political and technical grounds. Ideally, these grounds coincide, such that that same decision is justified on both grounds. Most often, however, the grounds do not yield the same possible decisions. When that occurs, political decisions tend to dominate. This situation results in the kind of instability of the ends described above, thus making it difficult to do either planning or systematic instructional development.

2. *Lack of clear educational policies.* One of the consequences of the fusion of political and technical decisions is that there is an absence of clear educational policies that can be used to guide the directions of developing institutions. As Ruscoe points out, there is often little distinction made between those policies that depend on empirical evidence and those that depend on political considerations. He states that issues of how to determine and subsequently make necessary changes in educational policies are frequently debated on the wrong grounds. Planning is thus made extremely difficult.

3. *Choosing among alternatives.* Ruscoe argues that choices among alternative ways to proceed in education also tend to be made on the basis of political, not technical considerations. He cites the example of school construction, where schools are placed on sites

that have political credibility rather than where they might be needed based on empirical evidence concerning school-age populations, location or size of existing schools, and transportation facilities. Within these political constraints, then, the planner is often asked to come up with alternative ways of doing things.

In many respects, the instructional developer is faced with the same dilemma. He or she may have little say about the selection of appropriate ends, and may be simply asked to devise alternative ways of achieving dictated ends. Unfortunately, the ends are often changed by various government mandates.

4. *Politicization of knowledge.* Closely related to these observations is the concept of the politicization of knowledge, which Ruscoe argues is characteristic of many developing nations. By this term, Ruscoe refers to the fact that plans and evidence, often objectively determined, may be judged not in terms of their objective merits but rather in terms of the political leanings of the presenter of the evidence. That is, questions are raised about *who* is presenting evidence, rather than about the value of the evidence itself. With this orientation, research, and evaluation data, such as that needed in both planning and instructional development, are often suspect. Ruscoe points out that these data are not suspect because they are incorrect, inaccurate, or inadequate but because they may have emanated from individuals or agencies whose political persuasions are suspect at the moment. The planner is thus confronted with the situation where carefully gathered objective data, used to empirically determine the best policies, are discounted.

Instructional developers face the same problem in gathering needs assessment and goal preference data so vital to effective pursuit of instructional development processes. As individuals and agencies move in and out of political favor, the goals of government institutions will shift. New plans will be established to meet the political agendas predominant at the time. Once again, this contributes to a basic instability of ends.

Anyone advocating the use of systematic processes of instructional development or evaluation, then, must be attuned to the changing nature of the institutions in which those processes will be implemented. This should not be taken

to mean that instructional development and evaluation are not at all feasible in a developing institution but rather that the processes may need to be implemented in ways different than would be true at an institution whose ends tend to be quite stable.

#### Rational Uses of Data

Most instructional development models, and certainly evaluation models, assume that data gathered about goals, student learning, etc., will be used in a rational way to make decisions about continued development or implementation of the program in question, about the commencement of new programs, or to explore broader policy considerations. There is a vast body of literature on the proposed and actual uses of evaluation data to inform program and policy questions. (See Abt, 1976, or McLaughlin, 1974, for but two examples of this literature.)

There is in any society a continuing debate about the extent to which human decisionmaking is rational, or even the extent to which it *should* be rational. Careful examination of most development models, however, suggests a fairly sophisticated approach to the uses of data inherent in the models. This sophistication may not necessarily be present in a rapidly developing institution.

Issues concerning rational uses of data for decisionmaking are many, a few of which might be cited here. First, it can be argued that many institutions in developing nations do not have individuals familiar with gathering, analyzing, or reporting data and thus lack the basic expertise needed to capitalize on research and evaluation data. Instructional development and evaluation processes are heavily dependent on the availability of trained personnel. If those personnel do not exist, or have been inadequately trained, the processes are likely to break down. This is especially true as concerns the rational uses of data to make decisions about educational programming.

Second, the notion of politicization of knowledge might be mentioned again here. Data may not be used on its own merits but may be interpreted according to political necessities. From a political perspective, the *political* use of data may certainly be regarded as a rational use of data. However, in many instances, the data themselves are ignored for their own value.

Finally, the issue of time necessary to gather and use data in a rational way is a critical issue in a developing institution. Often these institutions are developing so fast that they are unwilling to take the time to proceed more slowly with their development efforts. Unless there is time to gather, analyze, and report information, that information is simply not going to be used.

### The Team Approach

Many instructional development models assume a team approach to the design of educational programs. There is a role for instructional developers or managers of the project, a producer, writers, content specialists, evaluators, and various other kinds of technical support personnel. These individuals are expected to work together as a team to produce the program or product under question. (For a description of one such team, see UMA, 1975.)

Working together as a team is not always characteristic of personnel in developing institutions. This will vary from country to country and institution to institution, of course, but in many instances individuals are simply not used to working together on common projects. There is a high level of individualism that exists, particularly in the area of personal rewards. Individuals are rewarded not for being effective team members but for being *individuals*.

It is theoretically possible for an individual to implement an instructional development process. In the case of many developing institutions, however, assigned responsibilities are massive in scope, making it virtually impossible for programs to be developed by single individuals. The scope of the work of educational radio and television in Iran, for example, is large enough at the moment to require a staff of 400 individuals to accomplish its mission. Consequently, some effective team work must occur if institutional goals are to be met.

This observation points up the necessity for training in organizational behavior and group processes for anyone seeking to implement an instructional development or evaluation process. Too often, technologies such as instructional development are brought to a developing institution without adequate training for the individuals who have to implement those processes. It is not enough to train people only in the techniques of how to do needs assessment,

media selection, or evaluation; they must also have advanced skills in how to work as a member of a team and how to get other people to work effectively in that team structure. In fact, many individuals working in instructional development believe that group process skills are the most important skills of a good instructional developer.

In many developing institutions, attitudes will have to undergo dramatic changes to facilitate effective team work on a problem. It may be extremely important that top management in developing institutions be committed to the concept of a team approach and that they be willing to put resources into providing training in group processes. Without such training, implementation of systematic development processes is almost certainly doomed to failure.

These, then, are four characteristics of or assumptions about the technological processes of evaluation and instructional development that must, in combination with characteristics of developing institutions, be taken into account when attempts are made to transfer these technologies to developing nations. The interaction of process with institution raises many issues, some of which have been mentioned in this section. The next section of this paper explores some of these issues in greater detail.

### Issues in the Use of Instructional Development and Evaluation

It remains now to explore three action issues which emerge from the analyses presented above: trained specialists, changes and practices, and uses of data. As will become obvious to the reader, there are few simple solutions to the issues. The purpose of this section is both to elucidate issues that need further examination and to comment on possible ways to address them.

### The Issue of Trained Specialists

One of the most critical problems associated with introducing process technologies to a developing nation concerns the presence (or absence) of trained specialists. The issue might be stated as:

*To what extent, or in what ways, can specialist-dependent processes such as instructional development and evaluation be successfully transferred to contexts where there are limited number of specialists?*

The extent to which a technological process can be transferred depends, of course, on many of the factors described above. The attitudes and training of key decisionmakers in each context will heavily influence adoption. So will the presence or absence of individuals trained to implement the technology. While it is thus difficult to make a general response to this issue, it is likely that, in most situations, attempts to introduce process technologies to developing institutions will be accepted to some extent but not as much as or in ways the *supplier* of the technology might think is desirable. Suppliers of technology tend to have a magnified view of the importance of the technology they advocate. Suppliers would like receiving institutions to adopt a technology in complete detail, just as the developer intended. In many instances, however, the technology being proposed is probably never used to the fullest extent possible, even in the institution of the supplier. The issue is one of expectations; if expectations are too high, disappointment (in the mind of the supplier) will almost always result.

Given that technologies are unlikely to be adopted precisely to everyone's satisfaction, there are at least three things that might be done to enhance the likelihood that instructional development and evaluation processes will be successfully transferred in some measure to contexts where limited numbers of specialists are available. The first thing that might be done, of course, is to train more people to work with development or evaluation processes. Some developing institutions have sufficient resources for extensive training, and thus the issue is less difficult. In other institutions, however, such resources do not exist, and extensive training programs are problematic.

There is a long history, reasonably well documented, of international education and training programs. Deutsch (1970), for example, provides a fascinating historical and sociological analysis of international education and exchange. Referring to Frankel (1965), Deutsch distinguishes *education* from training. Education, Frankel argues, is directed at deliberate and organized efforts to affect an individual's beliefs, tastes, or abilities. Training is directed at less grandiose goals, and usually involves attempts to impart very specific skills. International education programs include student exchanges among countries, such as those sponsored by the

Fulbright-Hays program. Considerable research has been done on such education programs; a variety of recommendations about improving international education has been issued by individuals and committees, with particular emphasis on the role and responsibilities of the American university in promoting world understanding and in the transmission and advance of knowledge.

Technical training tends to be done by corporations. Less research and documentation appears to exist on the subject of specialist training internationally. Much of this training occurs in the context of sales of commercial technical products. Nonetheless, there is a wealth of experience in the provision of short-term training programs, experience which might inform future efforts to provide international training.

#### *Internal Training Programs*

Training programs can be developed for a variety of purposes, and with a variety of resources. Some institutions may want to develop intensive *internal* training programs for instructional developers and evaluators. ERTI, for example, has committed significant resources to such training. These training programs tend to follow well-defined curricula, and to use many supporting materials. ERTI's internal training programs were developed and conducted by external experts in the areas of development and evaluation. The programs focused heavily on techniques of development and evaluation, but also included analyses of the theories and philosophies underlining these processes. Attempts were made to use local examples, and to stress the relevance of these processes to ERTI problems. The training programs lasted for approximately 6 months.

An additional internal training program might be developed for *managers* of the institution receiving the process technologies. As suggested earlier, without adequate support from top management, technological processes are unlikely to be effective. Too often, we assume that by training specialists in the processes, the problems are solved. Little attention is given to providing training for managers in how to use the *results* of these development and evaluation processes or, indeed, how to manage the processes themselves. Without such training, managers are often unprepared for demands placed on the institution by these processes, and are

unable to successfully use the results of the processes.

#### *Short-Term Workshops*

Some institutions do not have sufficient resources to provide intensive, long-term internal training programs. One compromise is to develop a series of short-term training workshops on various aspects of the development and evaluation process. ERTI has utilized the short-term learning experience extensively as part of their training of developers and evaluators. In most instances, workshops have been successful vehicles for teaching highly specific skills to those people who need to implement those skills. As in any other setting, the success of a short-term workshop depends on the extent to which participants have been prepared for the workshop, and the quality of instruction offered by whoever runs the workshop. (See Davis & McCallon, 1974, for a handbook on planning, conducting, and evaluating workshops.) A potential problem in the use of short-term training is that the host institution will not have anyone charged with organizing and coordinating workshops, so that the workshops are often disjointed. When this happens, staff members get very fragmented notions of the techniques of development and evaluation, and are often unable to obtain the "big picture" that will allow them to implement their new skills in the most effective way. If attention is paid to coordination of workshops, the short-term learning experience can be a very effective way of training staff members to be specialists in these areas.

#### *External Training Programs*

Finally, the host institution may want to consider external training programs for its staff, by sending staff members to various degree or training programs external to the host institution. ERTI, for example, sent 13 students to Syracuse University to obtain master's degrees in evaluation; the government of Indonesia also sent 20 staff members to Syracuse University to obtain master's degrees.

There are several important considerations that should be taken into account before staff members from a developing institution are dispatched for external training programs. First, it is the opinion of this author that staff members going for external programs should not do so until they have spent a sufficient amount of time working at

their institution. It is probably unwise for a developing institution to hire new employees and immediately send them for external training programs. The reasons for this observation are twofold.

Without having worked at the institution, the employee may feel little responsibility or loyalty to the institution, and thus may not sense the urgency of the institution's mission. This can have an adverse effect on their activities during the external training program. In addition, individuals without actual work experience, find it difficult to adequately apply what they are learning in their external degree programs to the responsibility they will have once they return to work.

A second consideration is that the developing institution should seek to clarify to the extent possible the kinds of prerequisites assumed by the university providing the external training program. For example, there needs to be some clear sense of the level of expectation concerning facility with English, if participants are going to an American or British university. Often participants are sent for an external training program before their English language capabilities are adequate to meet the demands of that external training program.

While grasp of the language of the training institution is essential, it may also be important to determine if there are other prerequisites, particularly in graduate programs offering degrees in instructional development and evaluation. Should students be expected to arrive with some background in statistics? Are they expected to know about various philosophies of education? The developing institution should work carefully with the training institution to specify these prerequisites. If they are not clear, some students failures are almost inevitable.

In many instances, a developing institution can maximize its external training efforts by sending a *group* of students to a training institution, with the understanding that the training institution will develop some unique program components designed specifically for the group. At Syracuse University, for example, extensive orientation programs were developed to assist students from Iran and Indonesia to adjust to life in America and life in American universities. These orientations were an invaluable part of the students' experience. A developing institution may want to provide some resources to the training insti-

tution to develop these special provisions.

### *Training Trainers*

Another related way to deal with the problem of limited numbers of specialists in developing institutions is to train employees to subsequently train other employees. That is, those employees who have undergone training in development and evaluation might also be taught the skills necessary to subsequently train colleagues. It may not suffice to assume that because someone has gone through a training program they can automatically train others. This approach ensures a steady flow of available training, and places the eventual responsibility for training within the hands of the developing institution.

### *Partial Process*

Finally, the problem of lack of trained specialists may be lessened to some extent by introducing *components* of development and evaluation processes, rather than trying to transfer the entire process. It is critical to identify those parts of the development and evaluation process that may be most easily transferred, and to work on those parts as an initial step. The most effective way to accomplish this is to actually *demonstrate* those components of the development and evaluation process, rather than just talk about them. Modeling is extremely important. It is also important that, insofar as possible, the modeling be done by staff of the developing institution. External consultants may train a small number of people in how to implement certain parts of the development and evaluation process, and subsequently work with those people as they demonstrate the use of the process to their colleagues.

It is also important that the developing institution identify those people who are key "linkers," those individuals who are most likely to take a leadership role in adopting technological processes. It may be these linkers who are selected to model various aspects of the development and evaluation process for their colleagues.

The most effective way to deal with the problem of limited specialists, is, of course, to train more specialists. The suggestions above are intended to provide a variety of perspectives from which this training problem can be addressed. Where resources are extremely

limited such that extensive training programs cannot be developed, the adoption of specialist-dependent processes such as instructional development and evaluation may be a function of the extent to which existing staff can see demonstrations of these processes themselves. The modeling notion is critical, together with the idea that the technology may have to be introduced a component at a time. In some respects, this runs contrary to the notion of instructional development, but it may be a reality.

### **The Issue of Changes and Priorities**

As noted previously in this paper, one of the most difficult problems in introducing technological processes concerns the rapidly changing nature of developing institutions. The issue might be stated as:

*How can systematic processes such as instructional development and evaluation be adapted to function effectively in environments highly charged with social, political, and economic changes and shifting priorities.*

There is no simple answer to this question. Rapid changes are not going to stop simply to accommodate the need for stability inherent in the instructional development process. There are, however, two general ways of responding to this issue.

First, it might be argued that, given the rapidly changing nature of developing institutions, a critical thing to stress is the *basics* of instructional development and evaluation processes. These processes can theoretically occur almost irrespective of the changing context in which they operate. If staff members understand the concepts of systematic approaches to development, are acquainted with the various steps in most development models, and understand the function and limitations of evaluation data, they can theoretically implement these understandings even when the ends of the institutions change dramatically and often. Even rapidly shifting ends do not preclude the desirability of a systematic approach to creating a means for accomplishing ends. As mentioned earlier, the difficulty lies with the frustration that results from repeatedly starting and stopping development efforts. Nonetheless, it seems useful to adhere to the notion of a systematic approach to problem solv-

ing, even when that approach is routinely interrupted.

Second, it could be argued that it is of critical importance to provide extensive management training to those who must respond to the pressures of changing purposes. To be sure, many managers find themselves without any control over the influences acting to change their institution's directions. However, a well trained manager will be able to maximize the effectiveness of his or her organization in spite of external pressures for changing directions. In part, this becomes a matter of how to maintain a basic stability while responding to shifts in priorities. There is no magic formula for how to do this. It does appear, however, that some managers are better equipped to handle this situation than others. Management training should not be overlooked as a critical part of the functioning of an institution. Managers could well emerge as the chief linkage between supplying and receiving institutions.

### **The Issue of Uses of Data**

The systematic approach to the design of educational programs assumes effective use of evaluation data, particularly in a formative sense. As described above, there are many issues associated with the uses of data by developing institutions. The general issue might be stated as:

*How might the concept of systematic uses of evaluation data be effectively introduced in developing institutions?*

One of the best ways to encourage effective use of evaluation data is to show examples of how such data might help various people in the developing institution. Here again, we are talking about a modeling procedure. For example: An evaluator might work closely with an instructional developer and television producer on a single program in a series designed to teach adults basic literacy skills. The evaluator might field test the pilot television program with a group of adults similar to the kind of people for whom the program is designed. The evaluator might gather data about the effectiveness of that program, and about how people feel about the program. He might then share this information with the producer and developer, neither of whom are likely to have engaged in this kind of pilot testing process before. Evaluators should be able to



demonstrate how having such information will enable the producer to produce better television, thus enhancing his effectiveness within the organization. The data might then be seen as nonthreatening and helpful. Having done this a number of times, the evaluator may find the producer not only willing to consider data but eager to request certain kinds of information to enable him to produce better programs. Inevitably, the message will get out among other staff members in the institution that this process is rewarding to the developer and producer. In this way, requests for additional evaluation services might originate from other members of the staff.

This is a rather simplistic example, but it points out the necessity for beginning slowly with the use of evaluation data and demonstrating that it can be a help, not a hindrance, to the development work of others in the institution. It is recommended that this kind of use of evaluation data be tried first, prior to doing full scale evaluations of overall educational programs. Evaluation is most often viewed as a threat, not a help. Careful attention must be given to how uses of data are introduced into a developing institution so that the threat level is minimized.

Above all, it is critical that the power of data not be oversold. A good rule of thumb is that the evaluation expert should promise less than he or she can actually deliver. The history of evaluation is a long history of promising too much, and delivering too little too late.

If the developing institution has no history of the uses of data, the introduction of evaluation will be a slow and tenuous process. The problems of politicization of knowledge are particularly relevant to the introduction of systematic uses of evaluation data. Attention must be carefully paid to the credibility of the originators of the data, and to how those data are being reported. Again, this does not necessarily mean that evaluation data will lack credibility. It simply means that some common sense will have to be used in the introduction of evaluation data in developing institutions.

### Conclusion

What can be concluded from all of this? Several points emerge from available literature and the experience of this author.

First, it is safe to conclude that transfer of the process technologies of in-

structional development and evaluation to developing institutions is a highly intricate business, the basic foundation of which is trust. Interaction between supplier and receiver is absolutely critical. Neither the sheer logical beauty of a systematic development process, nor the rationality ascribed to evaluation, will alone guarantee their successful transfer to a developing institution. Process technologies cannot be purchased (or sold) in the same way as a television camera or computer. The level of understanding required by personnel in a developing institution to even inquire about a process technology is considerable; adoption of such a technology will not occur rapidly. The time required to understand and adopt process technologies may in fact be the saving grace of those technologies.

Second, it appears that the lack of sufficient numbers of trained personnel represents a major impediment to successful transfer of process technologies. Skill training programs of the kind mentioned in this paper will help considerably to alleviate this problem. What may get lost in the wake of frenzied efforts to train highly skilled specialists, however, is the thoughtful generalist, the person who has an ability to see how process, hardware, and software technologies can be effectively meshed in pursuit of meaningful goals. While instructional development and evaluation processes have a potential for humane applications, they are nonetheless technological processes which can be rigidly applied with little regard to human implications. An institution with a cadre of highly trained people but without people of gentle wisdom and a long view of society is an institution whose contributions to the betterment of society may be doubtful.

Third, it is clear that the data base needed to ascertain the costs and benefits of introducing systematic instructional development and evaluation into a developing institution is woefully inadequate. The data are inadequate not only for developing institutions: the literature on development and evaluation in general is long on advocacy and short on evidence. It is virtually impossible to empirically describe the benefits of doing systematic development and evaluation. We do know more about some of the costs. On what basis do we then advocate these processes?

Mostly we talk about efficiency. We argue that systematic development makes better use of finite resources. We

talk about learning from experience. We espouse rationality. The extent to which these things are desirable or even reasonable in a developing institution are matters to be decided on a case-by-case basis. This paper represents an attempt to sort out some of the factors to be considered in attempting to transfer process technologies.

Do the processes work? Sometimes. Maybe. Under certain conditions. Given the right people. The most direct answer to this question, however, reflects the essence of issues related to the use of technologies in developing institutions: What does it *mean* to work?

### References

- Abt, C. C. (Ed.) *The Evaluation of Social Programs*. Beverly Hills: Sage Publications, 1976.
- Banathy, B. H. *Instructional systems*. Palo Alto, Calif.: Fearon, 1968.
- Cronbach, L. J. Course improvement through evaluation. *The Record*, May 1963, 64 (8), pp. 672-683.
- Davis, L. & McCallon, E. *Planning, conducting, and evaluating workshops*: Austin, Tex.: Learning Concepts, 1974.
- Deutsch, S. E. *International education and exchange: A sociological analysis*. Cleveland: The Press of Case Western Reserve University, 1970.
- Durzo, J. *Instructional development in the New Hampshire College and University Council: The creation of a setting*. Syracuse University: Unpublished doctoral dissertation, 1976.
- Essoglou, M. E. The linker role in the technology transfer process. In J. A., Jolly and J. W. Creighton (Eds.), *Technology transfer in research and development*. Monterey, Calif.: Naval Postgraduate School, 1975.
- Frankel, C. *The neglected aspect of foreign affairs*. Washington: The Brookings Institution, 1965.
- Frankel, C. *The neglected aspect of foreign affairs*. Washington: The Brookings Institution, 1965.
- Gaff, J. G. New approaches to improve teaching. In D. W. Vermilye (Ed.), *Learner-centered reform*. San Francisco: Jossey-Bass, 1975.
- Gilmore, J. The environment and the action of technology transfer: 1970-80. Report of a conference sponsored by the Denver Research Institute, 1969.

- Grotelueschen, A., Gooler, D. & Knox, A. *Evaluation in adult basic education: How and why*. Danville, Il.: Interstate Press, 1976.
- Gustafson, K. C. Toward a definition of instructional development: A systems view. Paper presented at the Annual Meeting of the Division of Instructional Development, AECT, 1971.
- Havelock, R. G. *The change agent's guide to innovation in education*. Englewood Cliffs, N.J.: Educational Technology Publications, 1973.
- Kaufman, R. *Educational systems planning*. Englewood Cliffs, N.J.: Prentice-Hall, 1972.
- Lowe, J. *The education of adults: A world perspective*. Paris: UNESCO Press, 1975.
- McLaughlin, M. W. *Evaluation and reform: The Elementary and Secondary Education Act of 1965, Title I*. Santa Monica: Rand Corporation, 1974.
- Mead, M. Professional problems of education in dependent countries. *Journal of Negro Education, B*, summer 1946, 346-357.
- National Special Media Institutes. *What is IDI? The Instructional Development Institute Program for School Districts*, 1971. (Brochure).
- Neil, M. W. The educational imperative in developing countries. In Howe and Romiszowski (Eds.), *International Yearbook of Educational and Instructional Technology 1978/79*. London: Keogan Page, 1978.
- Niehoff, A. H. & Anderson, J. C. Positive negative and neutral factors—the process of cross-cultural innovation. *International Development Review, 6*, June 1964, 5-11.
- Provus, M. The discrepancy evaluation model. In Taylor & Cowley (Eds.), *Readings in Curriculum Evaluation*. Dubuque, Ia.: Wm. C. Brown, 1972.
- Rubenstein, A. H. *Designing organizations for integrating technology exchange transactions (TETs) in developing countries*. Evanston, Ill.: Dept. of Industrial Engineering and Management Sciences, Northwestern University, 1976.
- Ruscoe, G. C. *The conditions of success in educational planning*. Paris: UNESCO, 1969.
- Scriven, M. The methodology of evaluation. *AERA Monograph Series on Curriculum Evaluation, #1*. Chicago: Rand McNally, 1967, pp. 39-83.
- Stake, R. The countenance of educational evaluation. *Teachers College Record, 1967, 68*, 523-540.
- Stowe, R. A. Instructional development's the thing. *Audiovisual Instruction, April 1971, 16*(4).
- Stufflebeam, D., et al. *Educational evaluation and decision making*. Bloomington, Ind.: Phi Delta Kappan, 1971.
- UMA. Final Report: A model regional open learning system. Report to the National Institute of Education. Lincoln, Neb.: University of Mid-America, 1975.
- UNESCO. *The economics of new educational media*. Paris: UNESCO, 1977.