Experiential Learning Programs for Youth

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Opportunities for young people of secondary school age to learn outside of classrooms currently exist in a variety of programs, and the proliferation of such programs has been widely recommended. Their promise lies in engaging the learner more actively in learning, in contrast to the relative passivity of much classroom learning. Its proponents argue that such learning is more easily applied to real situations and that it need not rely on such extrinsic motivations as grades. However, experiential learning is also acknowledged to be less efficient and less generalizable than highly symbolic classroom learning. Its place, therefore, must be found in a set of educational approaches that includes conventional schooling. The claims for experiential learning have not been grounded solidly in research. Although unequivocal effects have been demonstrated for few educational programs of any kind, the informed creation of experiential learning programs for youth requires research that demonstrates the association of various types of programs with desired outcomes among youth with particular characteristics. Movement in the direction of this goal will require the development of more valid instruments for assessing program effects and the use of experimental designs. Experimentation is urged as an exploratory strategy more than as a means of confirming general principles.

Introduction

This article is divided into three parts, the first of which defines the term "experiential learning" and identifies some of its properties, purposes, and forms. Part 2 proposes a framework for thinking about the assessment of the effects of educational programs. Selected evaluation studies of experiential learning programs are reviewed within that framework. In Part 3, recommendations are offered for future research that would explore the value of experiential learning, guide

the development of programs, and contribute to the increase of knowledge about the learning and socialization of youth.

Three questions frame this article. The first two are addressed in Part 1: "What is experiential learning?" and "What are its purposes?" Parts 2 and 3 respond to the question, "How can the attainment of those purposes be measured?" Just as these questions orient the discussion to follow, the effort to measure the effects of educational programs is, in my opinion, an unreachable goal that nonetheless takes us in the direction we have to go if we are to make thoughtful judgments among competing educational philosophies and practices.

1. Experiential Learning

A Working Definition

In this article, "experiential learning" will refer to educational programs functioning outside of conventional school classrooms that place participants in responsible roles and engage them in cooperative, goal-directed activities with other youth, with adults, or both. It is synonymous or closely related to such terms as "action learning" (*National Association of Secondary School Principals Bulletin* 1972), "youth participation" (Heyneman and Thomas 1977), "youth involvement" (Weber and Custer 1970), and "work experience" (Searcy 1973).

A working definition is needed because experiential learning is a redundant expression. All learning, as Dewey pointed out, is rooted in experience. The experience may be hearing a lecture, reading a book, painting a picture, or campaigning for a mayoral candidate, but there can be no learning without experience. There can, however, be activity without learning; hence the need for attention to the conditions under which experience is educational. Dewey explicated those conditions admirably in *Experience and Education* (1938).

The definition adopted here includes what the Council for the Advancement of Experiential Learning (CAEL) calls "sponsored" experiential learning. Much learning, perhaps the most important learning, is acquired through daily life, without planning, sponsorship, or

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even the conscious intention of one person to learn or another to teach. Learning is also acquired through communications media; through informal educational institutions such as libraries, adult education programs, churches, and job training programs; and from one person teaching another what he or she has learned about golfing, collecting stamps, precision lathe operation, or surviving in a bureaucracy. But the concern of this paper will be with planned opportunities for learning outside the classroom.

In addition to limiting the use of the term "experiential learning" to nonclassroom educational programs, this definition includes only programs in which participants learn by doing something with or for others. What they do may be in the form of volunteer service, as described by Conrad (1974), but it can also be in the form of work performed in a business or agency, sometimes for pay, as in the programs reviewed by Walther (1976), or in the form of internships, community studies, information sharing, and political advocacy as outlined by Newmann, Bertocci, and Landsness (1977). The key is that learning is acquired through social activities, often directed toward external goals in addition to the education of participants.

I should make clear that I do not believe the term "experiential learning" should always be restricted to learning acquired through out-of-classroom programs involving extensive personal interaction. These limitations are placed on the contexts and purposes of experiential learning to set boundaries around the issues discussed in this paper. Another boundary is that the learners of interest are youth of secondary school age.

Some Properties of Experiential Learning

The definition adopted here for experiential learning depends on the contexts and purposes of learning, not upon the internal cognitive processes through which learning is acquired. Cognitive psychologists have examined different modes of learning as they function intrapsychically, often making distinctions that sound like the one made here between experiential and classroom learning. For example, Ausubel (1968) distinguished learning by reception from learning by discovery; Scribner and Cole (1973) investigated formal and informal education cross-culturally; Bruner (1966) identified enactive, iconic, and symbolic ways of representing the world; and Olson (1972) distinguished direct experience, modeling, and symbolic learning before proposing that all three rely on the same basic cognitive process.

These theories, however, do not bear directly on the definition I have proffered for experiential learning.

Coleman (1977) defined experiential learning by contrasting it with "information assimilation" in terms of a distinctive cognitive process, namely, one that begins with action or the observation of action and moves through generalization of a principle derived from that action and its application in another situation. However, in the circumstances with which I am concerned, educational programs for youth who have had considerable schooling, this is not necessarily an accurate description of the learning process. Experiential learning as I have defined it can utilize all cognitive processes. It differs from conventional school learning in the relative emphasis on enactive and iconic modes, to use Bruner's terms, but it may well begin with symbolic representation rather than action.

Bruner gave an illuminating account of the way in which different cognitive processes, although conceived as a hierarchy through which people pass with advancing age and exposure to schools, function simultaneously and reinforce each other.

> We would suggest that learning mathematics reflects a good deal about intellectual development. It begins with instrumental activity [enactive mode], a kind of definition of things by doing them. Such operations become represented and summarized in the form of particular images [iconic mode]. Finally, and with the help of a symbolic notation that remains invariant across transformations in imagery, [symbolic mode], the learner comes to grasp the formal or abstract properties of the things he is dealing with. But while, once abstraction is achieved, the learner becomes free in a certain measure of the surface appearance of things, he nonetheless continues to rely upon the stock of imagery he has built en route to abstract mastery. [1966, p. 68]

The contribution of the activity engaged in during experiential learning, then, may be to give concrete form to some of the abstract ideas that youth, unlike young children, are able to entertain. That concreteness, in turn, may make abstract knowledge more usable. It may be that direct observation of a confrontation between a mayor and a city council, for example, substantiates the abstract concept of separation of powers so that high school interns in local government can use the abstraction more readily and more appropriately in other situations. It is important to keep in mind Bruner's point that being able to express the idea of separation of powers in words and to deal with it in its abstractness is the ultimate goal, while acknowledging the contribution of concrete illustrations to that goal.

The application of Bruner's idea to experiential learning has been presented conditionally because there is not adequate research evidence to establish that experiential learning works in this manner or even to provide empirical grounds for stating it as a hypothesis. The same paucity of research renders the following properties of experiential learning unsubstantiated assertions. Nevertheless, they seem to be the key features and can be defended by appeals to authority, logic, and common experience.

Experiential learning narrows the gap between ends and means, between acquisition and application, that characterize conventional classroom learning. Newmann (1975, pp. 55–56) used the analogy of learning to swim to make this point. One learns to swim by swimming. The ends of experiential learning are, to a larger extent than in classroom learning, also the means. Application of what is learned experientially is, therefore, less problematic than the application of classroom learning because it is part of the learning process.

The possibility of improving students' abilities to apply their learning is one of the chief attractions of experiential learning. The National Assessment of Educational Progress (1977) has reported a dramatic difference between what most 13- and 17-year-olds in the United States learn in school and their uses of that learning in their daily lives. Experiential learning could be expected to reduce that difference because knowledge and skills would be acquired in the context of dealing with real issues.

Experiential learning elicits a wider range of learner responses than conventional classroom learning. Ethical and emotional reactions are called forth along with physical activity and social engagement. There is likely to be, therefore, a greater investment in the situation and a more active role on the part of the learner than in a classroom.

Coleman's (1977) assertion that experiential learning takes advantage of intrinsic motivation more than information assimilation does is related to this point and to the preceding one about the immediacy of application. The will to learn in an experiential learning situation flows from the learner's response to the situation, not from externally imposed rewards or sanctions. Immediate application also serves as a motivator. Assuming that experiential learning does in fact rely more on intrinsic motivation than classroom learning, the research on intrinsic and extrinsic motivation for learning reviewed by Condry (1977) suggests that experiential learning will be "better integrated into the individual's schema and more meaningful" (p. 473) and will be more conducive to exploratory learning behavior.

The preceding properties—providing concrete substantiation to abstract concepts, immediacy of application, and exploitation of in-

trinsic motivation—all represent advantages of experiential learning over classroom learning. Coleman, however, also identified two properties of experiential learning on which it does not compare so favorably with classroom learning. One was generalization, the other efficiency.

The key questions that determine whether an experience is educational are whether generalizations are founded on that experience and, if so, whether those generalizations open the way to further learning. Dewey stated these points in his "principle of continuity" (1938, pp. 25–39) and pronounced that the role of the teacher is to assist the learner in interpreting the experience and in choosing or creating subsequent experiences.

Coleman made a related point by stating the need to incorporate guided discussion into experiential learning to foster generalization from a particular situation. This need for "postgame discussions" was one of the major findings of the Hopkins Games Program, in which extensive research was conducted on the use of games and simulations for instruction (Coleman et al. 1973). The need to supplement activity with reflection in order to enhance its educational value is perhaps the most firmly grounded assertion that can be made about experiential learning, an idea rooted in Dewey's theory and supported by the research of Coleman and his colleagues. Symbolic learning, which is predominant in the classroom, by its nature is generalized. Therefore, with regard to generalization, classroom learning has an advantage over experiential learning.

Like Coleman, Bruner drew attention to the efficiency of symbolic learning and pointed out that the basis of all human culture is the ability of people to learn by reading or being told rather than only by immediate physical activity. The question of efficiency in the context of the definition I have given for experiential learning is somewhat different, though, because I have not defined it as excluding symbolic learning. Rather, the question is whether an experiential learning program is a more efficient and effective setting than a classroom for achieving certain educational objectives.

Clearly, there are some valuable kinds of learning that are best achieved in the classroom. It is difficult to conceive of an experiential learning program that would do a better job than most elementary school teachers do of teaching the multiplication tables. Using conventional learning objectives and outcome measures, researchers have found no evidence to support the superiority of more "experiential" classroom instructional strategies, such as the "discovery" or "inquiry" approach (Ausubel and Robinson 1969; Shulman and Tamir 1973).

Experiential learning, therefore, is most realistically seen as complementary to classroom learning rather than as a competitor or replacement.

Purposes of Experiential Learning vis-à-vis Classroom Learning

Most of the preceding discussion of the nature of experiential learning has involved an explicit contrast with conventional classroom learning. This contrast can also be carried into the statement of purposes for experiential learning. The reason for considering experiential learning as it has been defined here is that it may be a more effective means than classroom learning of achieving certain educational goals.

There are four possible purposes that experiential learning can have vis-à-vis classroom learning: motivation, remediation, application, and complementarity. Motivation is the purpose for experiential learning when it is seen as directing youth back to the classroom with renewed enthusiasm. A boy who realizes that carpenters have to use math, the argument goes, will be more dedicated to studying math in the classroom. Remediation describes the purpose of out-of-classroom learning programs designed to teach what is normally taught in the classroom to students who have had difficulty learning there. The best example is youth-tutoring-youth programs, which their proponents claim can improve the cognitive skills not only of the tutees but of the tutors as well (Gartner, Kohler, and Riessman 1971). Application has been identified as a weakness of classroom learning. Experiential learning can be an opportunity to use what has been learned in the classroom in a "real" situation, leading to greater retention and more thorough understanding. Finally, experiential learning can be conceived as complementary to classroom learning in the sense that it is a more effective means of achieving certain educational objectives.

Although these four possible purposes are more often combined than isolated in the justification of particular experiential learning programs, their separation helps to clarify the most important purpose, which is complementarity. Motivation and application both give out-of-classroom experience a relatively minor role; the real learning still takes place in the classroom. Remediation, although a possible purpose, is rarely offered as the major purpose for experiential learning, and there is reason to question whether it is achieved even in tutoring programs (Olds 1976). It is more common, and more cir-

cumspect, for experiential learning program advocates to claim only that participation will not interfere with the attainment of the basic skills taught in classrooms (Watkins and Corder 1977).

Sizer (1973) presented a compelling argument for the complementary use of experiential learning, though he did not use the term. Taking a broad view of the multiple, often competing, ideas about the purposes of American education, he identified three broad purposes that he labeled "power," "agency," and "joy." He then extracted from much of the criticism of American schools that became prominent in the late 1960s (e.g., Silberman 1970; Herndon 1968; Kozol 1967) and from some of the "hidden curriculum" literature (e.g., Katz 1971) the point that the structure of conventional schools is appropriate for the achievement of power but conflicts with the fostering of agency and joy. Therefore, he argued, new institutions should be created to concentrate on agency and joy. His descriptions of these "collegia" are laden with the sorts of educational opportunities I have defined as experiential learning.

Power, in Sizer's (1973) terminology, is "the maximum use of [a person's] intellectual and physical faculties for personal and corporate ends. He should be able to understand, to select, and to act in a purposeful, deliberate manner." Power depends upon "the basics" but includes the ability to use cognitive knowledge and skills in a critical, discriminating manner. Agency is "the personal style, assurance, and self-control that allow him to act in both socially acceptable and personally meaningful ways." This is part, but not all, of the affective function of education. Joy is defined by Sizer as "the fruit of aesthetic discipline, of faith, and of commitment." It is not solely appreciation for or competence in artistic endeavors, which are included in power, or a sense of belonging, which is closer to agency. Joy is individual liberty, the rewards of the pursuit of happiness.

The chief value of Sizer's (1973) argument is his contention that attempts to achieve all three of these broad purposes in conventional schools are dysfunctional to all three. Separating them, in emphasis at least, since they cannot be separated absolutely, would allow for greater congruence between institutional forms and educational purposes. "Academies," designed to foster power, could focus more narrowly than conventional schools on the traditional core subjects of humanities, mathematics, and sciences. They would provide a range of individual and group instruction tailored to the abilities and learning styles of each student. The use of diagnostic tests and the best available instructional technology could be expected to reduce to two or three hours the amount of time required each day for instruction in

these subjects. Time that is currently wasted by unnecessary repetition and waiting for the teacher would be put to use in the "collegium."

The form of the collegium was more difficult for Sizer to project because it would differ more radically from conventional schools. It would be a sort of clearinghouse for a variety of opportunities, some of short duration and some lasting for a year or more, in which young people engaged in activities with adult guidance that were designed to increase their agency and joy. Values, career education, athletics, performance of music, and art would be the province of the collegia and would not be restricted to classroom settings.

There is no empirical evidence that the types of purposes Sizer called agency and joy are the most appropriate for experiential learning, but there seems to be widespread agreement that they are. The objectives listed by the Panel on Youth (1974) in connection with desirable changes in secondary education and then adopted by Havighurst for the National Society for the Study of Education's Yearbook, *Youth* (Havighurst 1975), include power but emphasize agency and joy. The first four objectives, the "self-centered" ones, are most like the power objectives of schools, though broader: (1) *cognitive and noncognitive skills necessary for economic independence and for occupational opportunities;* (2) *capability of effective management of one's own affairs;* (3) *capabilities as a consumer, not only of goods, but more significantly of the cultural riches of civilization;* (4) *capabilities for engaging in intense concentrated involvement in an activity* (Panel on Youth, pp. 3–4; emphasized in original).

The next three objectives, "other-centered," fall clearly into the category of agency: (5) *experience with persons differing in social class, subculture, and in age;* (6) *the experience of having others dependent on one's actions;* (7) *involvement in interdependent activities directed toward collective goals* (Panel on Youth, pp. 4–5; emphasized in original).

Although this is the most prominent statement of the purposes of experiential learning, it is inadequate in two major respects. First, the other-centered objectives are not really learning objectives but *opportunities* that are assumed to have beneficial learning effects. They need to be translated into statements of what the learner is able to do as a consequence of the experience. Coleman (1972) listed eight such objectives on arguing for the transfer of many education functions from schools to workplaces.

Second, these objectives, though it would be difficult to argue that they are not important, have an ad hoc quality to them. The assumptions about adulthood upon which they are based have not been made clear, nor is there an explicit theory from which they have been de-

rived. They read like what Kohlberg and Mayer (1972) termed a "bag of virtues." They sound good, but it is not clear where they came from or why they should be given higher priority than other possible objectives.

A philosophy of education is required, from which objectives can be derived. The question then becomes which of those objectives experiential learning is best able to achieve. Although the use of experiential learning does not rest upon a particular philosophy of education, I shall briefly state my own in order to make explicit some of the assumptions underlying this paper.

Development as the Aim of Education

I believe the aim of education should be human development. Kohlberg and Mayer (1972) argued persuasively for "development as the aim of education," on the grounds that the progressive tradition stemming from Dewey and employing a "developmental-philosophic" strategy for selecting educational objectives is the only theoretically sound approach that also is consistent with empirical research on human learning and behavior. Their definition of development, drawing heavily on Piaget's theory of cognitive development, includes the requirement that "developmental behavior change is irreversible, general over a field of responses, sequential, and hierarchical" (p. 486).

This definition of development, though it has proved heuristically fruitful for researchers following both Piaget and Kohlberg, seems to me to be unduly restrictive. I prefer Bronfenbrenner's definition: "Human development is the process through which the growing person acquires a more extended, differentiated, and valid conception of the ecological environment, and becomes motivated and able to engage in activities that reveal the properties of, sustain, or restructure that environment at levels of similar or greater complexity in form and content" (1979, p. 27).

Development, so defined as the aim of education, includes many of the specific objectives of what Kohlberg and Mayer (1972) termed the "cultural transmission" and "romantic" traditions. In contemporary society, literacy and numerical skills are essential to the capacity to understand and act upon the environment. Equally important for this goal is the emotional growth of the person stressed by the romantic tradition. Rather than focusing primarily on the growing person as the romantic-maturationist educators do or on the environment's influences, requirements, and constraints, as the cultural transmission–

environmental determinists do, the developmental approach espoused by Dewey and Piaget focuses on the interaction of the person and the environment and the resulting reorganization of both cognitive and emotional patterns (Kohlberg and Mayer 1972, pp. 456–57). This mutuality of influence is precisely the focus of Bronfenbrenner's theory of the ecology of human development.

It should be noted that Bronfenbrenner's definition of development is not limited to the cognitive domain. Developmental change can also occur in the affective and motoric domains as well. Furthermore, although development is usually conceived as a phenomenon occurring in individuals and for their benefit, it is clearly influenced by social contexts and in turn has important implications for society. Loevinger (1966) and Selman (1971; Selman and Byrne 1974) have advanced useful theories of ego development and the development of role-taking ability, respectively. Dewey (1916, 1938) addressed the societal implications of development.

Although I reject Kohlberg's limitation of development to changes that occur in invariant stages, I believe the implications for educational programs of both his and Bronfenbrenner's definitions of development are the same. Thinking in terms of stages can be useful, especially with young children, if undue weight is not placed on the assignment of specific children to particular stages. The most important consideration must be to foster the growth of learners toward an increased capacity to understand and influence the world around them. This is consistent with Kohlberg and Mayer's warning that the educator's concern should not be with accelerating the achievement of higher stages but with avoiding stage retardation and promoting what Piaget called "horizontal decalage," meaning the "spread or generalization across the range of basic physical and social actions, concepts, and objects to which the stage potentially applies" (Kohlberg and Mayer 1972, p. 490). The key feature of learning as development is not necessarily that it represents a higher position on an irreversible hierarchy, but its continuing impact on subsequent experience. Learning as development transforms the way in which a person thinks about and acts upon the world.

Multiple Purposes for Experiential Learning

What, then, are the distinctive purposes of experiential learning, or what should they be? Discussing community-involvement activities for citizenship education, a subset of experiential learning programs, Newmann (1975, pp. 9–10) dramatically illustrated the importance of

this question by listing nine different possible objectives that could be held for the same activity: (1) a pedagogical device to stimulate scientific inquiry, (2) career orientation, (3) provision of needed public services, (4) a "real" alternative to overly abstract curricula, (5) a means of demonstrating the legitimacy of existing institutions, (6) a means of demonstrating the need for radical change in those institutions, (7) provision of opportunities for people to form close-knit groups, (8) placement of students in responsible roles, and (9) a channel for increasing the involvement of nonprofessional local people in education.

Newmann (1975) rightly urged as the conclusion of this illustration that educators begin by deciding on objectives and then designing community-involvement learning programs to meet those objectives, but another point can also be drawn from it. Experiential learning programs are potentially capable of meeting a wide range of objectives simultaneously. In contrast to classroom instruction that is sharply focused on specific outcomes and designed to have the most consistent possible effects on all learners, experiential learning can have—indeed, is likely to have—different effects on different learners. Dewey (1938, p. 42) defined experience as the interaction of the external conditions of the environment with the internal state of the learner. Therefore, the same external conditions can have different outcomes depending on how they interact with individual learners' unique internal states.

Bloom (1976) has proposed an instructional approach that takes those internal states into account, labeled and diagnosed as "cognitive entry behaviors" and "affective entry characteristics," and then varies the external conditions, "learning task(s)," appropriately to achieve remarkably consistent outcomes. But in experiential learning the learning setting is not under precise teacher control. The conditions for experiential learning are inherent in the activities of the learner as well as in the instructional behavior of the professional and nonprofessional teachers involved. It is impossible, therefore, to assure that all learners will have the same experience, using Dewey's definition of experience, and learn the same things.

Although Newmann (1975) is correct in urging educators to design experiential learning programs around predetermined objectives, those objectives cannot be stated at the level of specificity that is held to be desirable by Bloom and others concerned with instructional objectives for the classroom (e.g., Mager 1962). They cannot be so specific, and the measurement of their attainment will remain problematic because the proportions of learners who can be expected to achieve identical objectives cannot be as high as in a controlled class-

room situation. This point has implications for the evaluation of experiential learning, which will be explored in Part 2.

Another implication, though, is that the multipurpose potential of experiential learning programs can be exploited. Learners with different needs may be brought together in such programs with some mutual benefit—increased respect for people who are different from them, for example—and some individual benefits, such as better writing skills for one person and new photography skills for another who collaborate in producing a student publication like *Foxfire* magazine. It is a peculiar notion, which has gained the status of dogma in American education, that the best way to meet individual needs is to teach students one at a time. Experiential learning offers the possibility of meeting distinctive individual needs while retaining the social character of learning.

The purposes of experiential learning may best be stated in terms of what youth are able to do, the skills or competencies that are identified as contributing to their happiness and productivity as adults. This is the approach taken by Coleman (1972), the Panel on Youth (1974), and Newmann (1975). Stating objectives in terms of competencies does not mean that a list of performance objectives is an adequate statement of purposes. Specific competencies must always be seen as indicators of development, which is the ultimate aim of education, not as goals for their own sake.

To summarize, I have argued that the purpose of experiential learning should be to foster youth development in ways that classroom learning is not well suited for, particularly in those areas Sizer (1973) labeled agency. Experiential learning should be viewed as complementary to classroom learning. Its objectives should be to increase the competence of youth in such arenas as planning, finding, and making use of appropriate resources; persistence at a task; coping with new ideas, conflicting opinions, and people who are different; taking responsibility for others' welfare; and carrying out commitments to others.

Types of Experiential Learning Programs

The variety of experiential learning programs in which youth participate is both impressive and confusing. It is difficult to compare programs in which youth serve as tutors, counselors, hospital volunteers, interns in businesses and government agencies, researchers, and political advocates, to select a few. The difficulty of classifying experiential learning programs is illustrated by the fact that there are six charac-

teristics or dimensions according to which they can be sorted: activity, sponsorship, control, leadership, purposes, and participants.

Most efforts to develop classification schemes for experiential learning programs have distinguished the activities in which participants engage. *New Roles for Youth* (National Commission on Resources for Youth 1974) uses the roles performed by youth as its organizing principle, each chapter describing programs in which youth play a certain role: curriculum builder, teacher, community worker, entrepreneur, community problem solver, communicator, or resource for other youth. Conrad and Hedin (1977) also relied on activity in identifying five forms of school-sponsored citizen participation programs: voluntary service in social agencies, community projects, social/political action, community study, and internships.

Hedin and Conrad's list introduces an additional concern or dimension to the classification of experiential learning programs. Their examples are all school-sponsored citizen participation programs, but other organizations also sponsor experiential learning. Sponsorship, then, is a second dimension. Its most important aspect is the extent to which experiential learning is articulated with classroom learning, whether sponsored by a school or by another youth organization, or even an adult organization.

The issue of sponsorship is closely related to the question of how much control youth have over the program, but that question is of such importance that control should be treated independently as a third dimension for the classification of programs. Heyneman and Thomas (1977, p. 6), writing for the Interagency Panel for Research and Development on Adolescents, distinguished "three different modes of youth participation, entitled the youth-controlled mode, the adult-required mode, and the youth-sponsored mode." By their definition, the first mode is not one that educators can do much about because it requires that both initiative and control emanate from young people. The second they associated primarily with the family, though they noted, citing Baumrind (1974), that demands can be placed on youth by their communities as well. One example would be a compulsory form of national youth service, which Eberly (1977) advocated on a voluntary basis. The youth-sponsored mode is described as participation sponsored by adults in which youth have control but the limits of that control are defined by adults.

This third mode is by far the most common among experiential learning programs. The question of greatest interest regarding the dimension of control is how much control youth have. As long as their participation is not required, they have the power to decide whether and how much to participate. The extent to which they are involved in

making decisions about programs can vary considerably. It seems fair to assume that learning about decision making requires the opportunity to make important decisions (Arms and Denman 1975, p. 169) and that programs that differ in the amount of control they allow youth would also differ in their outcomes, at least in decision-making competence. The question of how much participants can control a program seems more important than whether it was initiated by adults or youth. There is no reason to believe that youth learn more about making decisions or feel more committed to a program that was started by youth than one that was started by adults. It is the current power distribution that is most likely to matter.

Leadership or staffing, the fourth characteristic, is closely tied to control. Assuming that most experiential learning programs for youth have some adult leadership, the question of what those leaders do and how they do it becomes important. Even in programs where youth make most of the major decisions, adult leaders frequently play a crucial role as advisors and facilitators of group decision making. The socializing power of such programs depends heavily upon the character of the adult leaders. Adults like Eliot Wigginton (1975), sponsor of *Foxfire* magazine, would probably promote the development of young people regardless of what activities they engaged in together. Probably none of the other dimensions listed here is as important in determining the quality of experiential learning programs as the character and competence of the adult leaders.

But these four dimensions—activity, sponsorship, control, and leadership—are not sufficient for classifying experiential learning programs because of Newmann's point that the same activity might have a number of different and even conflicting purposes ascribed to it. Purpose is the fifth dimension that must be considered. It is true that purpose could be inferred with some accuracy given activity, sponsorship, control, and leadership, but its logical primacy and the property of experiential learning that it can serve multiple purposes simultaneously argue for the independent consideration of purpose.

One more dimension seems essential to the process of classifying experiential learning programs, the characteristics of participants or learners. In discussing the possibility that such programs can meet many different needs, I briefly discussed the potential value they could have by bringing together diverse participants under conditions in which all would have important contributions to make in addition to benefiting themselves. That kind of program, though, is just one possibility. Other programs are aimed more narrowly at specific groups of learners. The most fruitful way of distinguishing among learners is probably, as suggested above, by means of a developmental

framework. However, relying once again on the contrast between classroom learning and experiential learning, two broad groups can be identified: those who have learned what was taught in classrooms and those who have not. For the second group, motivation and remediation might be more appropriate purposes for experiential learning, but they too need agency.

An acknowledged weakness of the Panel on Youth report (1974) was its failure to differentiate among the needs of different classes of youth in recommending changes in secondary education. Thus, their proposed objective, "the experience of having others dependent upon one's actions," while crucial to privileged and protected young people, is most inappropriate for a 14-year-old girl who has had primary responsibility for the care of five younger siblings or a 16-year-old boy whose part-time wages provide half of his family's income.

Given the possibility that experiential learning may meet different needs simultaneously, there is hope that programs designed to bring together diverse groups of youth cannot only meet some of their different needs but also capitalize on that diversity, allowing youth to share their distinctive competencies. The Youth Conservation Corps attracts a diverse group of youth by offering paid work and selecting participants at random. In one Youth Conservation Corps site where I observed, a barely literate young man became a leader because of his mastery of construction skills, skills that are denigrated in most schools as the province of the vocational students but that are highly valued, by honor students and all, in experiential learning programs where they are needed.

Although the nature of the learners seems to be of a somewhat different order than the other five dimensions suggested, the six together form a framework for differentiating experiential learning programs. Unfortunately, a six-dimensional matrix is hardly a useful sorting device! It would be useful to have a taxonomy for classifying programs, but these six dimensions do not lend themselves to that use. They do, however, identify the major questions to ask about any program and the points of comparison among programs. Taking them together provides a more useful framework than previous classifications considering only one or two dimensions.

Summary

In Part 1, experiential learning was defined for the purposes of this paper as out-of-classroom educational programs in which youth interact extensively with each other, with other people, or both. Prop-

erties of experiential learning, so defined, were discussed, including its use of all cognitive processes; the immediacy of application; its elicitation of a wide range of responses from learners, including cognitive, affective, and psychomotor; and the problem of generalization. The purposes of experiential learning were discussed in the broader context of development as the aim of education. Experiential learning should be seen as complementing classroom learning, particularly by fostering agency, that is, the skill and motivation to act in socially constructive and personally satisfying ways.

Two of the points made in Part 1 should be carefully noted because they underlie the discussion in Part 2 of measuring the effects of experiential learning. One is the belief drawn from Dewey (1938), Kohlberg and Mayer (1972), and Bronfenbrenner (1979) that development is the proper aim of education and that agency is the aspect of development best suited to experiential learning, following Sizer (1973) and Coleman (1972). The second point is my own assertion that experiential learning programs can contribute to the accomplishment of several purposes simultaneously. The kinds of effects that follow from these purposes require new approaches to measurement.

2. Measuring the Effects of Experiential Learning

Levels of Measurement

The question, How can the effects of experiential learning be measured? has several answers that can be ordered in a hierarchy according to the difficulty of obtaining the answer and the utility of the answer. Unfortunately, there is a positive association between difficulty and utility. The hierarchy can be represented by a series of more specific questions: (1) Do participants say they have been affected? (2) Is there external evidence of effects? (3) Is there evidence that the program was responsible for the effects? (4) What about the program was responsible for the effects, that is, (*a*) the type of program (activity, sponsorship, control, leadership, purposes, participants) and/or (*b*) other program characteristics (duration, perceptions of participants, etc.)?

Participants' responses are an important source of data regarding the effects of experiential learning programs. Rippey (1973) has edited a useful set of essays on the collection and use of such data. In the absence of harmful effects and assuming the availability of re-

sources, the enthusiasm of youth, teachers, parents, and citizens should be sufficient reason for implementing experiential learning programs. Indeed, such enthusiasm is one of the strongest testimonials to the benefits of experiential learning. It is a consistent characteristic of experiential learning programs that those who are close to them believe they are effective. Trow (1971) has argued that educational innovation should be encouraged precisely because it generates "Hawthorne effects." If they are no more costly than conventional programs, this argument is persuasive.

But participant responses are not an adequate empirical basis either for program designers who must try to develop optimal experiential learning programs or for policymakers who must choose among competing educational approaches in allocating limited resources. Scheirer (1978) has used social psychological theory and research to account for the tendency of those close to innovative programs to evaluate them favorably. Her line of argument has merit and serves as a needed warning to evaluators of experiential learning, but it ignores the possibility that evaluation instruments and methods are insufficiently sensitive to corroborate the beneficial effects claimed by participants and underestimates the ability of ordinary people to judge what is best for them. Positive feelings of participants should be taken seriously, but they cannot be relied upon exclusively.

Riecken (1952), whose study is reviewed below, found an opposite tendency in program participants, which he also accounted for by citing social-psychological theory. Participants in Volunteer Work Camps underestimated the impact the experience had had on them if their statements in interviews at the end of the program are compared with changes measured by several instruments. Furthermore, the ones who said they liked the program the most were not the ones who showed the greatest change as measured by those instruments. This finding, replicated by Dentler (1959), can be explained by the need people have to reconcile new beliefs with long-standing perceptions of themselves and by the power of discomfort as a force for change. Whether participants over- or underestimate a program's impact, the value of their opinions is bounded. Participant opinions are useful but not sufficient.

The second level, evidence of effects from "external" sources other than participant testimony, comprehends most of conventional program evaluation. The most common approach is the use of measurement instruments, usually printed forms, eliciting responses from participants that indicate changes in attitudes, opinions, or knowledge related to the program. Teachers, parents, and others close to participants can also be asked for their perceptions of how a program has

affected participants. Experts can be asked to evaluate either the program as a whole or the work of individual participants, and they may perform those evaluations on the basis of either systematic or impressionistic evidence or both.

Validity and reliability, the major concerns about all forms of measurement, are the chief problems at this level. I shall argue below that the kinds of instruments that have been commonly used to measure effects of experiential learning programs have been unsatisfactory. The best strategy for dealing with validity and reliability is what Webb et al. (1966) called "triangulation," the use of more than one measure of the same phenomenon. Thus, a participant's opinion, the testimony of a teacher, and a score on a standard measure are much more powerful evidence of program effects if they agree than if they are taken separately. The use of more than one "objective" measure adds even more power to such a finding.

The third level of measurement, evidence for attributing measured effects to a program, involves the design of evaluation studies. Campbell and Stanley (1963) provided the standard source of questions to ask of any assertion that a particular treatment is responsible for a measured outcome. They also made a powerful argument for experimental or "quasi-experimental" designs for studies of educational programs. I shall recommend the use of experimental designs, but for somewhat different reasons. The main point to be made here is that simply measuring some sort of change among program participants provides an inadequate basis for inferring that the change resulted from participation in the program. It is also necessary to compare program participants with nonparticipants using the same measures.

The fourth level, attribution of particular effects to properties of a program, is both the most useful and the most difficult to achieve. It entails comparisons of the effects of programs differing along the dimensions described above and comparisons of the effects of programs that are the same in terms of those dimensions but different in other ways. As with level three, experimental designs are needed, but to deal with level four those designs must not only compare participants and nonparticipants, they must also compare participants in different programs. Instead of just a treatment/nontreatment comparison, the treatment group must also be compared with groups receiving alternative treatments. Those alternatives may be other experiential learning programs, if the question of interest is the effects of a particular type of program, or the same program systematically varied if the question is what aspect of a particular type of program is associated with specific effects.

As I shall illustrate below by describing some studies of experiential learning programs, level three is as high as almost any have aimed and most fall lower on this scale. The result is that there is little that can be said with assurance about the effects of experiential learning. Following the review of some studies, I shall recommend steps for improving the quality of research on experiential learning.

Two types of experiential learning programs have been studied relatively extensively: one type with the chief purpose of citizenship or character education; the other, work experience or career education. These will be treated in some detail because the relative similarity of programs and evaluation procedures provides some comparability and because they represent the best studies I have been able to locate.

Evaluations of Citizenship Education/Character Development Programs

"Character development" has an archaic ring to it. Contemporary educators and evaluators tend to use terms like "self-concept" and "values clarification" instead, but the idea of instilling in young people predispositions to think and act in ways that are seen as beneficial to themselves and to society is the same. Citizenship education is closely related; its emphasis is more on societal than personal benefits.

Riecken (1952) and Hyman, Wright, and Hopkins (1962) evaluated similar programs of citizenship education/character development operating in 1948 and 1955–59, respectively. Both involved college students in full-time summer experiences designed to strengthen their liberal/humanitarian attitudes and behaviors. The Volunteer Work Camps were sponsored by the American Friends Service Committee and offered mostly middle-class youth a chance to undertake constructive physical labor in an economically deprived community in an atmosphere of intense discussion and communal interaction. The Encampment for Citizenship was much more of an educational than a service experience, but shared with the work camps the intentional immersion of "campers" in a democratically organized communal living experience.

The two studies have a great deal in common in addition to the similarity of the programs being evaluated. Both dealt rather well with the first three questions identified above as levels at which the question of the effects of experiential learning can be evaluated: participant responses, other measures of effects, and evidence that the programs were responsible for the effects. Their findings too were

similar. The stated objectives of the two programs were found to have been achieved for the most part. Participants generally approved of the programs. Changes in several relevant attitudes were significant and substantial according to different measures administered at the beginning and the end of camp, and, what is more, persisted through a 10-month follow-up by Riecken (1952) and a 6-week follow-up in the Hyman et al. study (1962). In addition, data on behavior demonstrated that campers' new attitudes were acted on during the camp experience and afterward.

Hyman and his colleagues (1962) demonstrated the camp experience's role in achieving these effects by gathering comparable data for four different groups of campers, by surveying campers from previous years, and by administering the pretest twice to one group in order to show that little change occurred over a six-week period when the camp was not being attended. Riecken (1952) used a comparison group only to establish that the volunteer work campers were decidedly more liberal than most college students before they participated.

Four aspects of these two studies are particularly noteworthy. First, the measures employed, though primarily paper-and-pencil attitude questionnaires, were numerous and varied. The findings must be taken more seriously because they were corroborated by different instruments. Second, both studies examined not only the aggregate effects of the programs but also differential effects on various subgroups, including males and females and those differing in their pretest attitude profiles and expectations for the camp and in their postcamp assessments of the experience. Third, both evaluations included detailed descriptions of the experience and at least speculative efforts to relate the measured effects to the properties of the camps. Fourth, the designs of the two studies, particularly the postcamp follow-up, and the sample sizes, were quite sound, their biggest weakness being lack of control groups, a weakness discussed in detail by Hyman et al. (1962, pp. 17–29).

It is ironic that these two studies, the earliest I have found, are the best. Three limitations, though, should be kept in mind. Both studies examined programs that attracted a very special group of college students who already possessed the kinds of attitudes the camps were designed to instill. What the camps did, then, was to reinforce and extend predispositions that were already present in large measure. This is not a trivial accomplishment, but it is not the same as making drastic changes in people. The second limitation on the generalization of these findings is that the experiences were extremely intense. Spending 24 hours a day over most of the summer in such a special

environment could be expected to have more dramatic effects than participating in similar activities at a more relaxed pace. Third, although the attitude measures employed were supported by various behavioral measures, they are not the strongest measures of effect. Hartshorne and May (1928) tested the assumption that attitudes measured by such instruments are closely related to behavior and found it unsupported. The burden of proof is on those employing the instruments. Both studies gave evidence that the attitude measures had behavioral implications, but neither used as sophisticated measures of behavior as those used for attitudes.

Outward Bound is a more recent character education program, though the term is not used by its proponents. It shares with the Volunteer Work Camps and Encampment for Citizenship the feature of placing young people, primarily but not exclusively secondary-school-age youth, in an intensive communal experience, full time, for some weeks. The activities involve survival in various wilderness settings, especially mountains and the seashore. They are intended to make youth more self-confident and better able to work cooperatively. It lacks the aspect of performing work that benefits people outside the group of learners that characterized the Volunteer Work Camps. The importance of interactions within the participant group under stressful conditions qualifies Outward Bound as experiential learning according to the definition adopted above.

A number of studies have been conducted of programs conducted in different years at various locations. Godfrey (1974) reviewed several of those studies and noted their weaknesses. Different instruments have been employed to measure changes in, for example, self-concept, fate control, values, and stability; and statistically significant changes in a positive direction have consistently been found. Some confidence, therefore, can be given to the claim that Outward Bound has an impact on the feelings of its participants as measured by paper-and-pencil instruments. Kelly and Baer (1971) found that recidivism of adjudicated minors who went through an Outward Bound experience was 20 percent while it was 40 percent statewide, suggesting that some behavior change might accompany the internal changes found in other studies. Wetmore's (1972) finding that instructor's ratings of participants' behavior with Kelly and Baer's Behavior Rating Scale corresponded to measured self-concept reinforces the link between internal changes and behavior.

Wetmore (1972) found no relationship between participants' socioeconomic status, race, and other background variables and self-concept changes, which with Kelly and Baer's (1971) study of de-

linquents, suggests that Outward Bound's effects are not limited to particular types of youth.

Wetmore (1972) found that the self-concept scores measured in his sample six months after the program ended did not decline from the levels measured at the end of the program. A more recent study by Nye (1976) employed a comparison group to demonstrate that changes in self-concept did not occur in youth not participating in Outward Bound. His three-month follow-up showed that gains were maintained when participants returned home. However, he found that instructors were unable to identify self-concept changes in participants on the basis of their knowledge of participants' behavior.

Although these studies did not, for the most part, use control or comparison groups, the consistency of their findings is evidence that the Outward Bound program was responsible for the effects, bearing on the third question in the evaluation hierarchy presented above. Their chief weakness is at the second level, providing convincing evidence of effects. Although it is clear that Outward Bound does something to participants, its value cannot be established solely on the basis of paper-and-pencil measures of internal states. Self-concept, probably the most used outcome measure of Outward Bound programs, has been shown to be related to important behavior, notably academic achievement (Brookover, Thomas, and Paterson 1964; Brookover et al. 1965; Brookover, Erickson, and Joiner 1967) and delinquency (Reckless, Dinitz, and Murray 1956). But a review by Scheirer and Kraut (1979) of intervention studies designed to improve educational achievement by increasing self-concept found no convincing evidence that improved academic performance followed increased self-concept, casting doubt on the behavioral consequences of self-concept change.

Wetmore (1972) and Kelly and Baer (1969, 1971) did the best studies of Outward Bound, and they are not as sound as Riecken's (1952) or Hyman et al.'s (1962) studies of programs with similar purposes.

Evaluations of Work Experience/Career Education Programs

Although many work experience programs for youth, such as Neighborhood Youth Corps (now absorbed by CETA, the Comprehensive Employment and Training Act) and Job Corps, have income transfer as a major goal, they can also be viewed as forms of experiential learning. Searcy (1973) and Walther (1976) expressed this view.

Walther (1976), in reviewing a wide range of programs sponsored by the Department of Labor, concluded that the most valuable potential outcomes of work experience programs were "coping skills," such as self-management, problem-solving ability, cognitive flexibility, and ability to deal with conflicts and with authority (pp. 65–69). Walther (1976) contrasted the goal of improving these rather general coping skills with the goal of teaching specific job-related skills, such as how to operate specialized machinery, and claimed that employers are more interested in dependable workers who can be taught specific skills than in technically trained workers who are hard to supervise.

Generalization about the results of Job Corps and Neighborhood Youth Corps is difficult for two reasons. Participants are selected because of the severity of their needs. The possibility of showing strong positive effects, therefore, is minimized. The youth who need such programs most are hindered by a multitude of forces from achieving the programs' objectives, which center on finding and keeping productive and remunerative employment. It is difficult to fault a program that lasts a few months for failing to overcome the cumulative and continuing effects of racial discrimination, economic deprivation, poor school achievement, unstable homes, and unsupportive communities.

Despite these obstacles, some participants appear to benefit dramatically from such programs, and some programs seem much more effective than others. A second difficulty in generalizing about the programs is that aggregating results obscures the achievements of some participants and some programs. Sufficient resources have not yet been allocated to the evaluation of these programs to determine whether certain classes of participants and specific programs or types of programs consistently outperform the others. Evaluations, that is to say, have not yet dealt with the fourth-level questions involving program variations and alternative treatments.

For that matter, evidence on the existence of program effects, levels two and three, is not clear cut. Levitan and Johnston (1975) reported that surveys of Job Corps participants revealed no advantage in earnings or employment rate over persons who had been admitted to the Job Corps but chose not to come. They also reported, in their favorable treatment of Job Corps, both its impressively high placement rates and the reasons why they are somewhat inflated. Ellard (1974) found no advantage for Neighborhood Youth Corps participants in Houston in school attendance or income and also that youth working without benefit of Neighborhood Youth Corps demonstrated more personal qualities likely to serve them well in the work force than program participants. Findings of the comptroller general's evalua-

tions of both the in-school (1973) and out-of-school (1974) Neighborhood Youth Corps programs can be interpreted as demonstrating either failure or the need to improve basically sound programs, depending on one's point of view.

The most thoroughly evaluated recent experiential learning program is experience-based career education (EBCE). Sponsored by the National Institute of Education (NIE), EBCE has been implemented in many school systems across the country according to the specifications of and with technical assistance from four regional educational laboratories, each of which has established a somewhat distinctive approach. Each of the laboratories has also conducted evaluations of their own programs, and the Educational Testing Service (ETS) has conducted an evaluation of all four models (Shively and Watts 1977; Biester, Blair, and Kershner 1977; Owens 1977; Spotts and Evenson 1977; Watkins and Corder 1977). The findings from these extensive studies show: (1) that EBCE is extremely popular, winning strong support from students and former students, their parents, and the adults in the learning settings where students are placed; (2) that EBCE students show no losses in academic achievement measured by standardized tests when compared with students not in the program; and (3) that differences favoring the EBCE group are found between EBCE and non-EBCE students in their knowledge of and attitudes toward careers (Bucknam 1976).

The finding that participants and others approve of EBCE is related to the first and second levels of measurement since teachers, parents, and workplace supervisors provided "external" testimony to the program's effects. The second finding, that EBCE participants did not fall behind in their acquisition of basic skills, is consistent with studies showing that different forms of instruction have similar results (Stephens 1967; Olson 1972); but it is particularly noteworthy given that many EBCE participants spent no time at all in classrooms during an entire school year. The extent of conventional classroom study varied from program to program, but many programs dealt directly with academic subjects only in tutorials and independent studies. This finding should relieve fears that increased emphasis on experiential versus classroom learning will necessarily interfere with the learning of basic skills.

The third finding, however, is the most interesting, because it concerns the distinctive purpose of career education. The evaluation study of the Northwest Regional Laboratory approach (Owens 1977) showed some program-related differences between EBCE and non-EBCE students by asking questions specifically about features of the program. For example, EBCE students were more likely to say they

had had firsthand experience in a job site and to know personally someone in a career they were interested in than non-EBCE students, and they were more likely to have performed certain tasks included in an inventory of "survival skills." The Far West Laboratory's study (Spotts and Evenson 1977), in contrast, used instruments that were not closely matched to EBCE's purposes and functions and discovered no consistent differences between participants and nonparticipants. One instrument, for example, assessed general knowledge of 200 different careers, while EBCE is designed to teach in detail about just a few careers.

The ETS study (Watkins and Corder 1977) found that EBCE students had more positive attitudes toward career planning and more knowledge about different careers than nonparticipants. The ETS evaluators judged EBCE students to be better respondents to open-ended interview questions, saying they were more concise and able to speak more easily with an adult interviewer than non-EBCE students. And they found that EBCE students talked more about long-range factors in career choices than non-EBCE students, whose reasons for being interested in certain careers were more likely to be short range, such as starting salary and current job market conditions.

These findings suggest that EBCE has some value, but they do not constitute a persuasive case for its widespread adoption. The fact that it is being disseminated beyond the pilot sites is attributable more to its appeal to students, school administrators, and citizens as a career-oriented program and to the absence of negative consequences than to its demonstrated ability to achieve its objectives. Nevertheless, the evaluation efforts made with regard to EBCE are the most impressive among contemporary experiential learning programs. They include a wide range of outcome measures, experimental designs, and some attempts at long-term follow-up studies with past program participants (Biester and Kershner 1979).

The most disappointing aspect of the EBCE evaluations for the purposes of this review is their failure to address the experiential nature of learning in the program. Although the purpose of the evaluations was presumably to demonstrate the effectiveness of a particular approach to career education, an experiential approach, all the comparisons made in the studies are between Experience Based Career Education and no career education. What findings they provide, therefore, say absolutely nothing about the key question of what experiential learning has to contribute to career education. This was not entirely an oversight. The original design for the ETS study included a comparison group of students enrolled in classroom career education and conventional vocational educational programs. Resis-

tance from EBCE and NIE staff, however, forced the elimination of that aspect of the study. It is not difficult to imagine the reasoning behind such resistance: If EBCE came out "behind," then the program staff would look bad and face the loss of their positions; if it came out "ahead," their colleagues would be likely to become resentful competitors. Such are the realities of evaluation research; but in the absence of comparisons among treatments, no conclusions are warranted about the efficacy of a particular treatment.

Summary of Program Evaluations

A brief review of selected evaluations of experiential learning programs has revealed that the best studies, in terms of their place on the four-level hierarchy presented above and their value to program designers and policymakers, were done 15 or more years ago on programs whose characteristics prevent generalization to the range of programs that might be offered to secondary-school-age youth. More recent studies have tended to rely on a few paper-and-pencil measures of outcomes, and their designs have precluded inferences regarding the aspects of the programs that are associated with their effects.

3. Recommendations for Future Research

Much research remains to be done if the potential benefits of experiential learning are to be made more widely available. We need to know what effects various forms of experiential learning are likely to have on particular types of learners. That is, we need to know more about what different classes of youth need and how they respond to various opportunities, and we need to know more about the dynamics and outcomes of a range of experiential learning programs.

The quest for such knowledge is endless. Studies assessing the effects of experiential learning can be no more conclusive than studies in other realms of educational evaluation and social science. The purpose of more studies is not to answer all the questions that can be raised but to provide additional evidence upon which considered judgments can be made (Cohen and Garet 1975). Further work in instrument development and evaluation design seems particularly promising for this purpose.

The goal of such work, the orientation of the following recommendations, is to move upward in the hierarchy of evaluation: from

assessing participants' responses to gathering corroborative evidence of a program's effects, to establishing the program's contribution to those effects, to specifying the program features associated with certain effects. The point of striving for higher levels of evaluation is that each successive level offers greater understanding of what can be expected of experiential learning and who will be most likely to benefit.

After making this point, I should note that the recommendations I make for evaluation studies of experiential learning programs far exceed the standards now met by studies of conventional classroom instruction. There is not a solid empirical base for choosing one form of classroom instruction over another or even for assuming that classrooms are appropriate settings for learning. It is unfair but true that alternative approaches to education are required to prove their effectiveness while conventional approaches are not.

Instrument Development

I propose a moratorium on the creation and use of paper-and-pencil instruments until more valid measures can be devised and then used to validate new or existing paper-and-pencil instruments. Development, as defined by Bronfenbrenner (1979) and by Dewey (1938) before him, has to do with the increasing capacity of a person to act in and upon the environment. Understanding, as Dewey explained so well (1916), is bound up with such action, both as antecedent and consequence. Paper-and-pencil measures have demonstrated little power in assessing a person's ability or motivation to understand and act (Hartshorne and May 1928; Mischel 1968). The ideal measure of experiential learning effects would be closely associated with actual behavior and would also reveal effects that endure over time and are visible in settings other than the experiential learning program. Two sorts of measures seem more promising: structural interviews and observations.

By structural interviews I mean interviews designed to assess changes in the ways in which people understand the world around them. The best model for secondary-school-age youth is Kohlberg's interviews to assess moral development (Kohlberg and Gilligan 1971). The key is that these interviews are used to discover *how* people think about things rather than *what* they think. Changes in how people think can be assumed to have important consequences that extend beyond the setting in which they occurred.

Methods of eliciting statements that reveal such changes might in-

clude the use of anecdotes like Kohlberg's (Kohlberg and Gilligan 1971), but other stimuli are also possible. Visual stimuli such as those used in thematic apperception tests are a possibility. Steinitz and her colleagues used relatively open-ended interviews to infer the political ideologies of youth (1973, 1976; see also Adelson 1971). Luria (1976) adapted his clinical interviewing skills to suit the conversational style of Asian peasants, asking riddles, for example, which was a customary form of entertainment, and found that those who had participated in collective decision making demonstrated more advanced cognitive skills than those whose village politics had not yet been transformed by the Russian Revolution.

Watkins and Corder's (1977) finding that participants in EBCE were better able to respond to interview questions is one example of the kind of data that could be collected using such interviews. Since this was an unexpected finding, they should not be criticized for making no more of it, but it would have been even more impressive if they could have demonstrated that EBCE participants' interview skills held up when they talked about topics unrelated to careers and in situations where EBCE was not salient.

Direct observation of behavior offers the most convincing evidence of effects. Perhaps because it is such a costly form of data collection, observation has usually been used only to provide data regarding processes. But if outcomes are stated behaviorally, observation of behavior is the most valid possible means of measuring outcomes. Observation could profitably be employed in three settings: the experiential learning program itself; simulations designed to elicit behaviors of interest; and "natural" settings, particularly the home, school, and workplace.

Systematic observation of experiential learning programs could be invaluable in illuminating the properties of those programs (Mehan 1978), but it could also document program effects. If increased ability and motivation to act cooperatively is a program goal, then cooperation could be operationally defined and instances counted. An increasing frequency of cooperative behavior would then testify to the attainment of the goal.

The limitation on such a finding would be that increased cooperation within the program may not carry over into other situations. An efficient means of checking the extent of carry-over or diffusion would be to create artificial situations, simulations, in which cooperative behavior could be assessed. Trainers in human relations have devised a number of simulations that might be useful for such purposes (Pfeiffer and Jones 1973–77). Breer and Locke (1965) employed some similar exercises, such as building structures with toy

construction sets and solving word problems, to induce changes in attitudes on the basis of task experience. Their work not only provides examples of simulations but reinforces the belief that experiential learning can have powerful effects. A large number of educational games are also available (Zuckerman and Horn 1973), some of which could be used to assess the acquisition of new social or problem-solving skills.

The validity of assessments based on behavior in simulated situations would have to be established by determining the association between that behavior and behavior in natural or real-life situations. Effects of experiential learning programs that were demonstrated at home, in school, and in the workplace would be the most convincing possible. They would also be the most difficult to find. Given the obtrusiveness of observation in natural settings and the expense entailed in both collecting and analyzing such data, it is unrealistic to propose extensive observation in these settings. It would be useful to have more done, though, in order to validate more economical instruments.

The knowledge of those who observe young people in the course of their work in such settings could be exploited for this purpose. Teachers, parents, and other adults could be asked to assess the behavior of youth in the settings where they see them, and those indirect observations used to evaluate the effects of experiential learning. Validity and reliability are clearly difficult to establish for measures of this type. A first point to consider is that it may be more important that adults *perceive* positive changes in young people than that those changes actually occur. Therefore, the perceptions of behavior by important adults are significant data regardless of their validity.

However, it may be possible to achieve acceptable validity and reliability by defining carefully the behavior of interest, specifying the conditions under which it might occur, and asking for very specific assessments (number of instances per day, e.g.) rather than only for summative judgments. Outside observers could be employed to check the accuracy of such observations.

Research Design

The recommendations I have to make regarding research design have to do with evaluation research. But the evaluation of experiential learning programs is not the only avenue to increased knowledge about the effects of experiential learning. People learn without programs, and efforts should be made to determine what sorts of things

are learned "incidentally" and how that learning occurs. Research on the conditions under which development occurs would be most useful to the designers of experiential learning programs and their evaluators.

My first recommendation is that evaluations of experiential learning should be designed as experiments. This suggestion is really a restatement of the recommendations made by the Panel on Youth (1974). A nuance that many of the critics of that report missed (see *School Review* 1974) is that the panel recommended "social experiments or pilot programs with evaluation" (p. 150) rather than wholesale restructuring of secondary education. The panel's suggestions reflect the caution of the 1970s, while most of its critics responded as if a large-scale program reminiscent of the 1960s had been proposed. No convincing arguments have been advanced against the suggestion that pilot programs and experiments be instituted to investigate the contributions that could be made by experiential learning to the transition of youth to adulthood.

The purpose of experimentation of this kind is "to maximize one's sensitivity to phenomena through the juxtaposition of the similar but different" (Bronfenbrenner 1979, p. 37). The experiment is used for heuristic purposes, in the spirit of what Bronfenbrenner termed "Dearborn's dictum": "If you want to understand something, try to change it." Experiments may be either "contrived" or "natural." The contrived experiment is the most common, but it has usually been performed in laboratory settings; a natural experiment is simply the exploitation of a contrast occurring for reasons other than experimental manipulation. Hypotheses are useful as heuristic devices in these types of experiments but not necessarily to formulate laws or establish causal relations (see also Kelman 1968, chap. 6).

My second recommendation is that experiments in experiential learning be contrived, in the sense that programs are developed specifically for the purpose of evaluating them. The disappointing gap between the design of the ETS evaluation of EBCE (Watkins and Corder 1977) and what was actually accomplished illustrates the difficulty of conducting experimental evaluations of already existing programs. The problem is not only a practical one of convincing program personnel to cooperate with a study but an ethical one of conducting scientific inquiry without treating people as objects (Kelman 1968). There is an additional problem bound up in the ethical issue, which is that people who feel they are being manipulated are not likely to provide valid data (Argyris 1970, chap. 4).

The dilemma involved in conducting experiments with educational programs leads to my third recommendation, which is that re-

searchers and program staff work together to plan experiential learning programs that can be evaluated experimentally. Ideally, youth and parents would also be involved in such planning. This is the most promising approach to providing researchers sufficient control so that they can begin to identify what program properties are associated with particular effects. Contrasting types of programs may be plentiful enough that they can be treated as natural experiments to determine the kinds of outcomes that are associated with various types of programs.

Questions for Research

I have recommended the development of new interview and observation instruments and the use of experimental designs for the evaluation of experiential learning programs, but the most important issue is what such efforts should try to accomplish. The question, What effects do various forms of experimental learning have on particular kinds of learners? provides a general orientation, but greater specificity is required. The six dimensions described in Part 1, along which experiential learning programs vary, and the many potentially important differences within each dimension do not encourage the attempt to answer such a general question. Some choices must be made about which dimensions and which variations within dimensions should be explored.

I propose that the most useful method of classifying learners is according to their school performance. Other classifications are also likely to be important, particularly sex, race, socioeconomic status, and level of cognitive, moral, and ego development. But the functional significance of those variables may be in their impact on school performance and its interaction with the effects of experiential learning.

Regarding the forms of experiential learning, I think the dimensions that would best repay research may be control, sponsorship, and activity. The key issue in sponsorship is the extent and nature of articulation between experiential learning and school. In control, it is the extent to which youth are able to control the program and the ways in which that control is exercised. A third issue, which can be viewed as an aspect of the dimension of activity, is whether youth are engaged with each other in a common task or whether they are working primarily with adults on a one-to-one basis. It seems likely that the effects of these two types of programs would be different.

Conclusion

Experiential learning has great potential as a means of enriching the education of youth. There is some evidence that it has strong positive effects, but not enough to justify massive allocations of resources to it. The paucity of evidence results primarily from the weaknesses of current instruments and designs for evaluating experiential learning programs rather than from a dearth of such programs. New measures and careful studies of a variety of experiential learning programs are needed in order to determine what effects different forms of experiential learning have on particular classes of youth.

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