STUDY PROVES HYPOTHESES — AND MORE

A two-year study of 20 high school experiential education programs assesses their impact and identifies key characteristics of effective programs.

by Diane Hedin and Dan Conrad

In the 1970's, experiential education became an increasingly significant feature of the rhetoric and practice of American education. All of the major commissions and panels (see References) that studied secondary education and adolescence recommended that schools extend the depth and breadth of experience available to adolescents. For example, the most recent study of high schools by the Carnegie Council on Policy Studies in Higher Education recommends that juniors and seniors attend classes three days a week and devote the other two to education-related work or community service.

While strong endorsements of experience-based education by leading educators and social scientists abound, relatively little hard evidence of the impact of such programs on students appears. Little effort has been made to test systematically the assumptions underlying the endorsements or to investigate empirically which specific forms or formats of experiential programs may be the most effective in realizing the hypothesized benefits.

The Evaluation of Experiential Learning Project (EELP) was undertaken to do just that—to assess the impact of experiential education programs on the social, psychological, and intellectual development of secondary school students and to use this data to identify empirically the program variables that are most effective in facilitating such development.

Though the follow-up portion of the study will not be done until 1981 and some of the available data have not been analyzed fully, EELP's findings show that experiential education increases students' social, psychological, and intellectual development more than traditional education does. Research also indicates that the most effective programs give students substantial autonomy, include a reflection component, last at least one semester, and involve students in the community four or five days a week. Furthermore, service-learning programs scored higher than the three other types of experiential programs studied in several important developmental aspects.

Initiated by the Commission on Educational Issues and cosponsored by the National Association of Secondary School Principals, National Association of Independent Schools, and the National Catholic Education Association, EELP evaluated 30 experiential learning programs in independent, public, and parochial schools around the country. The Center for Youth Development and Research, University of Minnesota, conducted the research.

Approximately 4,000 students ranging in age from 12 to 19 participated. They were urban and rural, poor and affluent.

For purposes of the study, experiential programs are defined as "educational programs offered as an integral part of the general school curriculum, but taking place outside of the conventional classroom, where students are in new roles featuring significant tasks with real consequences, and where the emphasis is on learning by doing with associated reflection." The kinds of program activities include volunteer service, political and social action, outdoor adventure, internships in government and business, and research in the community. The study encompasses virtually all forms of what is termed experiential education in secondary education, with the notable exception of work-related or vocational programs and the Experience Based Career Education Program (EBCE), which have been extensively evaluated elsewhere.

At the heart of the project is its panel of practitioners, teachers, and administrators directing programs in 20 diverse school systems from Beverly Hills, California, to Newark, New Jersey. With the assistance of educational evaluators, the panel members were responsible for defining the issues to be studied, for helping select and develop instruments for implementing the design, for helping interpret the data collected—and for keeping the whole study practical, understandable, and applicable to everyday life in schools.

Selecting the Issues

The first step of the research process was to survey the directors of the 30 experiential programs. The survey asked what they most confidently believed to be their programs' actual effects on students,

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What Students Learn in Experiential and Service-Learning Programs

Composite Profile of 20 Experiential Programs in EELP Study (N=4,000) Compared to 13 Service-Learning Programs (N=321)

	PERCENTAGE OF RESPONSES					
	Experiential Programs			Service-Learning Programs		
	Agree	Disagree	Don't Know	Agree	Disagree	Don't Know
1. Concern for fellow human beings	93%	4%	3%	99%		1%
2. Ability to get things done and to work smoothly with others	93	4	3	94	2	3
3. Realistic attitudes toward other people such as elderly, handicapped, or government officials	88	4	8	90		10
4. Self-motivation to learn, participate, achieve	88	7	5	86	9	5
5. Self-concept (sense of confidence, sense of competence, self-awareness)	88	7	5	90	6	4
6. Responsibility to the group or class	86	3	11	89	4	7
7. Risk-taking—openness to new experiences	86	7	8	95	2	3
8. Sense of usefulness in relation to community	86	8	6	90	5	5
9. Problem solving	86	9	5	76	13	11
10. Risk-taking—being assertive and independent	86	9	5	81	8	11
11. Accept consequences of my own actions	85	9	6	86	4	9
12. Gathering and analyzing information, observation, reflecting on experience	84	8	7	94		6
13. Knowledge of community organizations	82	7	11	86	11	13
14. Responsibility for my own life	80	10	9	81	6	13
15. Awareness of community problems	78	13	9	87	5	8
16. Assume new, important tasks in community and school	78	14	8	85	9	6
17. Communication skills (listening, speaking, presenting ideas through variety of media)	77	11	7	93	4	3
18. Awareness of community resources	71	13	16	69	13	18
19. Realistic ideas about the world of work	71	18	11	72	18	10
20. Learning about a variety of careers	77	22	8	64	24	12
21. Use of leisure time	60	26	14	71	18	11
22. Narrowing career choices	54	34	12	50	33	17
23. To become an effective parent	52	39	19	53	25	22
24. To become an effective consumer	46	32	22	48	23	29

Knowledge gained compared to other classes:

	Much more	About the same	Much less
Experiential	77	11	14
Service	70	28	2

Community Problem Inventory

Name one problem in your community that people should be concerned about.

If you wanted to obtain information and assistance about the above problem, which people and organizations in your community would you talk or write to? Be as specific as possible—list names of people and organizations if you know them. List as *many* as you can.

1. 5.
2. 6.
3. 7.
4. 8.

what the directors each had directly experienced, seen, and heard.

The 24 effects that appeared with high regularity formed the basis of a questionnaire administered to all 4,000 students in May 1978. The students were asked which, if any, of the outcomes listed represented what they personally had learned from their program. The results of this survey appeared in the Winter 1979 *Synergist* and, along with additional data, accompany this article.

In summary, on 14 of the 24 items, all programs had an average agreement level of more than 80 percent. The most positively rated outcomes had to do with self-motivation and initiative, social and personal responsibility, problem solving, self-concept, knowledge of the community, and learning from experience. Each of the other items received from 80 to 100 percent agreement in the programs where they were a deliberate emphasis.

Two schools asked the students' field supervisors and parents to respond to the same list. The only differences between their ratings and those of the students were a slight variation in the order of agreement and a higher incidence of "strongly agree" responses. The high level of agreement elicited by these surveys made it reasonable to conclude that the items did represent the major hypothesized effects of experiential programs.

The report in *Synergist* invited directors of service-learning programs to administer this same questionnaire to their students. Thirteen high school programs completed the survey (see the accompanying table). In general, the results from the 13 service-learning programs were similar to those in the original experiential education survey group, indicating that experience-based programs have certain generic effects. The only consistent difference was that the service-learning programs, in general, were rated more positively. Specifically, the service programs received substantially higher ratings on the following items: openness to new experiences (number 7), learning from direct experience (number 12), communication skills (number 17), and assuming new tasks in the community and the school (number 16). These differences are noteworthy because the experiential programs in this study were selected because of their exemplary features. That a self-selected group of community service programs turn out to be even stronger than some of the most established and most exemplary experiential programs in the country indicates the basic soundness of service-learning education for helping young people learn about themselves, their community, and the basic intellectual skills of learning from direct experience.

With the key issues thus identified, the next task was to translate what were essentially self-reports into research questions suitable for more rigorous examination. The list of outcomes was trimmed to 20 items by including only those in which students and program directors had at least a 70 percent level of agreement. The findings of this preliminary work helped in creating the Experiential Education Questionnaire (EEP).

Research Method

Three major considerations guided the selection of instruments for measuring these key outcomes. First, the methods must not rely solely on traditional paper and pencil tools. Second, multiple measures should assess each outcome since previous research offered little guidance regarding which instruments would prove efficacious. Third, whenever possible, standardized instruments should be used so that the outcomes of experiential learning programs could be compared to those of other programs.

Five data-gathering tools and/or approaches were used:

- The Experiential Education Questionnaire, a series of paper and pencil instruments administered at the beginning and end of courses to students in experiential education and to comparison groups in the traditional school program;
- Questionnaires to parents and community supervisors regarding the student's progress in his/her experiential program;
- The qualitative notebook in which the

Participating Schools

Independent: Dana Hall School, Wellesley, Massachusetts; Francis W. Parker School, Chicago; Packer Collegiate Institute, New York; Duluth (Minnesota) Cathedral High School; St. Benedict's Preparatory School, Newark, New Jersey.

Parochial: Bellarmine High School, Tacoma, Washington; Ward High School, Kansas City, Kansas.

Public: Eisenhower High School, Hopkins, Minnesota; Mitchell High School, Colorado Springs; Minneapolis Public Schools; Allegheny Intermediate Unit, Pittsburgh; Students Serving Students, St. Paul; South Brunswick High School, Monmouth Junction, New Jersey; Rochester (Minnesota) Public Schools; Bartram School of Human Services, Philadelphia; Beverly Hills High School; Ridgewood High School, Norridge, Illinois; Kirkwood (Missouri) High School; North Central High School, Indianapolis.

program coordinator or teacher systematically collected anecdotal and case study materials;

- Systematic observations and interviews with students and staff conducted by two members of the panel of practitioners;
- A follow-up study of participants in three schools three to four years after they have completed the off-campus program.

This article discusses only the data derived from the several instruments—some designed especially for this study—that form the Experiential Education Questionnaire. *Synergist* readers who wish to use these new instruments to conduct their own evaluations should write to the authors (c/o Center for Youth Development and Research, 48 McNeal Hall, 1985 Buford Avenue, St. Paul, Minnesota 55108) for copies and explanations of the scoring system.

The study was designed to answer two major questions: To what extent do experiential learning programs affect students' social, psychological, and intellectual development, and in what ways do different program forms and formats (length, intensity, program characteristics) affect student growth in these areas? The question of development was broken down into a number of specific questions and instruments were found, adapted, or designed to find the answers.

Experiential programs' impact on students' *level of personal and social responsibility* was measured by scores on the Personal and Social Responsibility Scale (PSRS), an instrument created for this study. The PSRS assesses the extent to which students have responsible attitudes, feel competent to act responsibly, feel a sense of efficacy so that they are willing to take responsibility, and perform responsible acts.

Semantic differential scales measured the students' *attitudes toward adults* in general and the kind of persons with whom they were in primary contact in their field placement, such as elderly or handicapped persons. *Attitudes toward active participation in the community* also were measured by semantic differential scales.

To measure *involvement in career planning and exploration*, EELP used an adaptation of the Career Exploration Scale developed by the Educational Work Program of the Northwest Regional Laboratory, Portland, Oregon. This instrument focuses on actual behaviors in planning and exploring careers.

To check psychological development EELP used two well tested instruments: the Rosenberg Self-Esteem Scale to measure *general self-esteem* and 10 items from the Janis-Field Feelings of Inadequacy Scale to measure *self-esteem in social situations*.

EELP had two new instruments designed to measure intellectual development. The Community Problem Inventory (see accompanying box), included as part of the post-test only, examined *knowledge of community issues and resources*. The Problem Solving Inventory (see accompanying box) tested *ability to analyze and solve problems*. The Inventory was designed as a proximate measure of a person's inclination and ability to perform five tasks that John Dewey deemed central to the process of solving problems involving interpersonal and ethical conflict. The five tasks are: reacting instinctively to a newly perceived problem (approximated by a stimulus story), generating more alternatives, considering the consequences, choosing, and evaluating the outcome.

The second major area of investigation was the extent to which different types, forms, and structures of experiential programs affected student growth. The four specific program features selected for analysis were:

- Type of experience—adventure education (patterned after Outward Bound), community service, career internships, or community study (surveys and historical research)/political action;
- Length (four weeks to nine months) and intensity (an hour a day to full time);
- Existence of a reflective component—a regularly scheduled class or seminar;
- Characteristics of each student's individual experience.

To measure these dimensions, EELP gathered descriptive information on program features from both the students and staff. Students also rated the overall program on a four-point scale from excellent to terrible and explained their rating. Finally, they were given a list of characteristics of field experiences (see

Problem Solving Inventory

INSTRUCTIONS:

Following are three actual incidents encountered by students in their action learning program. Read each incident carefully and project yourself into the setting as if it is a situation that you must deal with personally. As you read the story, think about what things you would do or say in the situation. Then answer the questions below:

You are working at a nursing home. You've come to be really good friends with one lonely old man there and you visit him every time you come. One day he tells you the only thing he really hates about the nursing home is that the staff won't let him have a drink. He hands you a couple of bucks and asks you to sneak a pint of brandy to him the next time you come. You say you can't get any because you're under age, but he begs you. What do you do or say?

1. What's the first thing you would think of to do or say?

   a.

2. What other things could you do or say—try to list as many as you can.

   b.

   c.

   d.

   e.

   f.

3. Look back at what you wrote in No. 1 and 2 and list the letter of the one you think is best _____. Please explain why you chose it.

4. Choose one you rejected and list the letter of the item _____. Please explain why you chose it.

5. Explain what you think is the "real" problem involved in or lying behind the incident.

6. Have you ever had to handle a problem like this before? ____ ____ yes no

Characteristics of Experience

1. What is your overall rating of this program as a learning experience?

   Excellent ☐ Good ☐ Poor ☐ Terrible ☐

2. If you had an excellent or good learning experience, what made it good or excellent?

3. If you had a poor or terrible learning experience, what made it poor or terrible?

INSTRUCTIONS: The following list describes some features of a community field experience. Please describe your particular experience by circling the appropriate number from 1 to 5.

	Practically Never	Once in a Great While	Some-times	Fairly Often	Very Often
4. Had adult responsibilities	1	2	3	4	5
5. Had challenging tasks	1	2	3	4	5
6. Made important decisions	1	2	3	4	5
7. Discussed my experiences with teachers	1	2	3	4	5
8. My ideas were ignored	1	2	3	4	5
9. What I did was interesting	1	2	3	4	5
10. Did things myself instead of observing	1	2	3	4	5
11. Given enough training to do my tasks	1	2	3	4	5
12. I was given clear directions	1	2	3	4	5
13. Had freedom to develop and use my own ideas	1	2	3	4	5
14. Discussed my experiences with my family and friends	1	2	3	4	5
15. Adults at site took personal interest in me	1	2	3	4	5
16. Had freedom to explore my own interests	1	2	3	4	5
17. Had variety of tasks to do at the site	1	2	3	4	5
18. I never got help when I needed it	1	2	3	4	5
19. Was appreciated when I did a good job	1	2	3	4	5
20. Adults criticized me or my work	1	2	3	4	5
21. Felt I made a contribution	1	2	3	4	5
22. Applied things I've learned in school to my community placement	1	2	3	4	5
23. Applied things I've learned in my community placement to school	1	2	3	4	5

accompanying box) and asked how often each was a feature in their own situation. Items included such characteristics as "made important decisions," "talked about experience with friends and family," "felt I made a contribution."

In almost all programs, students' participation was voluntary—as is almost universally the case with experiential programs. Therefore, it was not possible to use a true experimental design with random assignment of students to experimental and control groups. The approach taken was to use quasi-experimental designs. Six schools had comparison groups made up of students not involved in an experiential program and who were virtually identical in age, grade, sex, and socioeconomic status to the students in the experiential program. In the other schools, the best obtainable design was the one-group pre- and post-test design. The major use of the results was comparison with other forms of experiential programs, not with more traditional classes.

Psychological Development

An important research finding has been that the formal academic curriculum does not automatically lead to personal and

psychological growth. In fact, numerous studies have reported negative effects on such variables as self-esteem, interest in learning, and personal autonomy.

Proponents of experiential education have argued that psychological growth is more likely to be achieved through placing the student in direct experiential confrontation with practical problems.

This study corroborated this theory. Students in 24 of the 28 programs increased both *general self-esteem* and *self-esteem in social situations*. The results suggest that the increased interaction with a variety of people, new places, and novel responsibilities tended to give these young people more confidence in themselves in social situations—speaking in front of a class, meeting new people. General perception of self-worth, such as feeling more useful and more able to do things well, also increased.

Social Development

A common view today is that young people are locked in an adolescent ghetto separated from meaningful interaction with adults. The implicit assumption is that separation breeds suspicion, if not hostility, and that greater contact with adults would promote more positive attitudes. The study confirmed this hypothesis. Students in the experiential programs, who were in more collegial relationships with adults, tended to show large, consistent changes on the semantic differential scale toward *more positive attitudes toward adults*. There was a positive change in 22 of the 28 experiential groups, with older students tending to show larger gains than the younger ones. Remaining in a classroom with an adult teacher appears not to raise adolescents' esteem for adults. Six of the seven control groups evaluated adults more negatively at the end of the test period.

The study hypothesized, therefore, that students would develop *more positive feelings toward the kind of persons* (government officials, the elderly, etc.) with whom they were in primary contact in their field placement. A strong rationale for experiential programs is that youth who become involved in responsible tasks on behalf of others in their community develop more positive attitudes toward a variety of people. The data very strongly indicate that the hypothesis is correct.

In the pre-test, students rated the elderly, business persons, and children considerably higher than junior high students, police, and government officials. On the post-test, the ratings of all except business persons increased significantly. That exception is difficult to interpret. One factor could be that the students in business internships tended to be more observers than participators.

In the past decade, the public has shown great concern about teenagers' level of *personal and social responsibility*. Social critics have pointed out the increased narcissism, privatism, hedonism, and aimlessness in society, and particularly among adolescents. This apathy becomes overwhelming in regard to social and civic participation, e.g., in 1975, 58 percent of those 18 to 24 did not vote in the presidential election, with percentages rising to 72 percent among black youth and 78 percent among Hispanic youth.

Students in 21 of the 28 experiential programs changed in a positive direction; in 14, changes were statistically significant. In contrast, students' level of personal and social responsibility in six of the seven comparison groups declined.

Proponents of action- and service-learning claim that by placing students in responsible roles in which their actions affect others, more responsible attitudes and behaviors will develop.

The findings support these claims. Students in 21 of the 28 experiential programs changed in a positive direction; in 14, changes were statistically significant. In contrast, students' level of personal and social responsibility in six of the seven comparison groups declined.

The data also were analyzed by subscales that included a *sense of duty or obligation, social welfare orientation* (degree to which a person feels an obligation to other persons in the society), *sense of social efficacy, competence* (assessment of one's capacity to perform responsible acts), and *performance* (actual performance of responsible actions). The strongest gains were recorded on the subscale related to students' sense of competence, duty, and social efficacy, and the most highly significant differences between the two groups were the much greater sense of duty and social welfare orientation evidenced by those in experiential education programs.

Students in service-learning programs had the highest Social and Personal Responsibility Scale pre-test scores, followed by those in community study, career internships, and adventure education. This would indicate that those who volunteer for programs in which helping and serving others is the major task tend to be more responsible than students in other experiential programs.

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The other measure used to assess students' *interest in and reaction to community participation* was a semantic differential on "being active in the community." It was hypothesized that direct participation would lead students to value such activity more highly and increase the likelihood of their participation in the future. The results confirmed this hypothesis.

While both students in experiential programs and in the comparison groups started out valuing community participation about equally, by the end of the program the experimental groups had a higher evaluation of it and the comparison groups a lower one.

Perhaps the most commonly cited critique of adolescent socialization is the inability of many youth to make a smooth *transition from school to work*. This is thought to occur because youth lack opportunities to learn about and explore a variety of possible careers; to acquire the basic work habits of orderliness, punctuality, and attention to work; and to develop the desire to be productive in the workplace.

An oft-expressed goal of experiential learning is to increase a young person's knowledge about the myriad of career options. To learn whether this goal was achieved, EELP administered the Career Exploration Scale. Of all the measures of student growth and achievement, this scale showed the most consistent and positive increases, with 27 of the 28 programs increasing, 19 of them significantly so. The comparison groups also showed an increase, but a much smaller one. Analysis of the subscales revealed that greater increase for students in experiential programs was largely because of greater gains on items relating to exploratory activities and not on factual information gathered about careers.

It is also noteworthy that both the community service and community study programs—even though they had almost no organized and explicit focus on careers—produced approximately as much change (a substantial increase) as those whose major goal was career development.

Intellectual Development

Theorists of learning and intellectual development from Aristotle through Dewey to James Coleman have stressed the necessary relation of experience and education. Experience serves both as the source of knowledge and as a process of knowing. Education is of, by, and for experience. The study examined this relation by looking both at academic learning and intellectual development.

Because the programs' academic goals varied widely, it was not practical to test academic learning through any general test of facts or concepts. Instead, EELP asked students how much they felt they had learned in their experiential program compared to what they had learned in an average class in school. Nearly 80 percent of the students said they had learned more or much more in their experiential program. Only 9 percent reported learning less.

Student responses on the Problem Solving Inventory were scored according to the number of alternatives suggested, the degree to which they took responsibility for solving the dilemma, the degree to which they justified a decision according to its consequences, and the level of empathy and complexity of thought shown in the overall analysis of the problem. None of the programs showed significant changes except in the last category. The Complexity/Empathy scale, which combined several developmental frameworks into one in a seven-level scale, showed significant upward movement by students in most of the experiential programs and no change in the comparison groups. The movement was from the fourth level (stereotyped thinking, concern for rules, focus on physical needs) to the fifth (emphasis on friendship and belonging, on communication, and concern for emotional as well as physical needs).

Among the general program characteristics, the strongest factor influencing change, particularly on social attitudes and complexity of thought, was the existence of a seminar in which students reflected on their experience.

The strongest increases were found in those programs where students were in a helping role that related closely to the dilemmas to be solved and were engaged in regular seminars in which they processed their experiences. Both of these elements were critical. Since these were common features of the service-learning programs, most consistent gains on this measure were found in this program type.

Program Variables

The second major focus of the study was to identify the program variables that were most effective in facilitating development in students. The clearest finding is that no single factor or set of factors guarantees effectiveness. Within every program, some students gained a great deal and others did not. Though the analysis is not complete, preliminary conclusions are that the strongest predictor of change proved to be the degree to which students perceived themselves as having the freedom to develop and use their own ideas, make important decisions, explore their own interests, make an important contribution, and assume adult responsibility. In short, the most powerful experiences were those in which students participated with substantial autonomy in activities that made a difference.

A corollary finding was that the factors that most influenced growth were not the same as those that influenced how positively students rated a program. For students, the key issues were how interesting they found the experiences and whether they felt appreciated.

Taken together, these findings reflect Dewey's point that what is "satisfying" is not necessarily "satisfactory." While it is important that an experience be interesting enough to engage students, that is not sufficient. The experience must also challenge them and stretch their capacities.

Among the general program characteristics, the strongest factor influencing change, particularly on social attitudes and complexity of thought, was the existence of a seminar in which students reflected on their experiences.

The most effective programs were those lasting at least a full semester (18 weeks) and involving students in the community four or five days each week.

The overall conclusion of this study, then, is that experiential education programs can promote social, psychological, and intellectual development more effectively than classroom-based programs.

The authors now anticipate the publication of three documents: a comprehensive report, a compilation of the instruments used, and a combination of anecdotal and statistical materials. These will be announced in Synergist. *Those who wish to receive a notice of the availability of publications should send a stamped, self-addressed envelope to the authors at the Center for Youth Development and Research.* ■