

entry skills and those who already had work experience when they enrolled. Certainly the progress students make and comparisons between student potential and actual accomplishment must also be taken into account.

In evaluating the performance of graduates, more attention should be given to long-range follow up studies. Lifetime career development information in the occupational fields of the graduates is needed to fully understand the educational preparation most suitable for students in given occupational areas.

One example of a long-term follow up of graduates of vocational training is that done by Dr. L. O. Brockmann in 1970 (2). Dr. Brockmann sent questionnaires to 615 former students of Fergus (Montana) High School, who had enrolled in the cooperative training program between 1930 and 1944. Approximately 70% of these were returned, and formed the basis for Dr. Brockmann's report, *Cooperative Work Experience Education - A Study in Success Twenty-Six to Forty Years Later*.

Surveys of this type could be very helpful in evaluating the results of our technical programs, giving a more complete and valid picture of the strengths and weaknesses than can be seen from a survey of graduates of only one or two years. Consideration should be given to selecting a representative sample of each class who would be surveyed at specified intervals after graduation. Continuing studies and reports on their progress and changes in attitudes could be most helpful in evaluating the worth of educational programs in our schools. Dr. Brockmann establishes excellent guidelines that could be used to good advantage in preparing long-range follow-ups of technical students.

Conclusion

In an educational climate which is operating on increasingly limited resources, those programs that can prove their worth

through concrete data will have the best chance for survival. The big hurdles to educational program improvement are the barriers in the minds of people. Unless citizens, students, and educators are personally involved in designing and conducting the effort to improve educational programs, it is not likely to result in much success.

Research in technical education has been minimal. The need for broad, in-depth research is apparent in such areas as the process of technical education, individualized instruction, core curriculum development, uses of community facilities, program cost, optimal number of students, and individual versus group hands-on training.

The strength of technical education programs has come from their flexibility and responsiveness to changing needs of students and industry. These qualities can only be maintained through continuing evaluation of the effectiveness of the programs now being offered. Most important of all, this work needs to be carried on with an increasing depth of perspective and a clear sense of purpose and commitment.

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INTRODUCTORY LANDSCAPE HORTICULTURE IN ADULT EDUCATION

by Ronald C. Smith and J. Robert Warmbrod
The Ohio State University

During 1973 the Columbus, Ohio YMCA and the Continuing Education Division at The Ohio State University offered a course on basic landscape horticulture. Advertising for the course was made through normal promotional channels, including mailed brochures and spot announcements on radio stations.

The course was popular with the adults. It was a non-credit course taught once a week between 7:30 to 9:30 p.m. for a 10-week quarter.

An evaluation form was developed to obtain feedback from the adults enrolled on the content of the course and the teaching techniques. An instrument was developed also to measure the adults knowledge relating to the content of the course.

The purpose of this paper is to relate the experiences gained as a result of teaching and evaluating the course.

Course Content

The course was conducted as a lecture-discussion relying heavily on visual aids (35mm slides) to help present the subject matter. The syllabus consisted of the following units or topics.

1. Plant selection for use around the house. (Slides were accompanied by a description of the plants.)
2. Basic design principles for landscaping the public and private areas of the home.
3. Common construction techniques; wall building and patio construction.
4. Maintenance problems typical to most home situations.
5. Flower and vegetable gardening concepts including a laboratory session in terrarium construction with the students making their own terrariums, and discussion of the plot plan drawings the students had been working on throughout the quarter.

On the first day of class, the students were asked to complete a pre-test (Fig. 1). On the last day of class the students were asked to take the same examination as a post-test. This provided means of measuring their gain in horticultural knowledge through the quarter. Only those students who had taken both a pre-test and post-test could be used in making this comparison.

Figure 1.

Some Improved Practices Emphasized in the Landscape Horticulture Adult Education Program

Name _____ Sex _____ Age _____
Occupational Status _____
A homeowner presently? _____ In the near future? _____
If presently, what area? Urban _____ Suburban _____ Rural _____

Your response to the following questions would be appreciated:

	Yes	No	Do not know:
1. The property is developed for three basic areas - public, private and service.			
2. The selection and planting of trees, shrubs and ground covers is based on aesthetics only.			
3. Each facing of the house has a different microclimate and therefore will support various forms of plant material.			
4. Test the soil for pH as well as fertility before making any permanent planting.			
5. Buy and use fertilizer based on its brand name.			
6. The use of sphagnum peat moss in plantings will increase the alkalinity of the soil as well as improve its physical condition.			
7. Use systemic insecticides on plant material which would develop fruit that may be eaten by wildlife and children.			
8. It is best to attempt to establish a quality lawn from seed in the spring of the year rather than fall.			
9. Mow a bluegrass lawn at 1½ to 2", water infrequently, but heavily, and fertilize with at least one pound N/1000 sq. ft. 3 times a year.			

	Yes	No	Do not know:
10. Use Pennlawn, Creeping Red or other fine-leaved fescues for shady areas where a grass cover is desired.			
11. The use of gypsum in the soil will add calcium, change the pH and improve its structure.			
12. Consider the needs of all members of the family in establishing the size of the patio; at least 64 sq. ft. for each one.			
13. Air Layering is a home propagation technique to obtain new plant material.			
14. Espaliering is a technique for establishing plant growth in two dimensions - height and width.			
15. As a rule of thumb, prune a plant immediately before it flowers.			
16. Some plants have separate sexes, the female species of which are desirable in some cases (Holly), and undesirable in other (Ginkgo).			
17. Build a well around the base of any tree that is going to have fill placed over the root area.			
18. When pruning a hedge, make the general shape more "V" than straight or "A" shaped. In other words, prune the top to be broader than the base.			
19. The climatic variations that exist around one's property influence the type of plant material used; low areas are prone to frost late into the spring as well as early in the fall. Early plant establishment or flowering can be inhibited in one case, while crop maturation may be delayed in the other.			
20. Day length is a factor that influences the development of flowers of some plants. It has no influence on any other structures of the plant.			

Figure 2.
Evaluation of the Adult Education Home Landscaping Course

Your opinion on the following questions will help in evaluating and improving this course, so please answer as completely as possible. Your answer is completely anonymous, so say what you really believe. Thank you for your cooperation.

What do you consider the most valuable subject discussed in this course?

What do you consider the least valuable subjects discussed in this course?

What could be added to make this course more valuable?

What weaknesses do you find in the course as it is set up and what do you suggest for eliminating these weaknesses?

How would you evaluate the instructor in terms of course presentations, assignments, testing, grading, and fairness to students (and on any other terms that seem appropriate)?

In addition, the last day of class was used to have the course evaluated by the students (Fig. 2). This was done anonymously in order to allow for maximum expression of the students' reactions.

Adults Enrolled

About 36 per cent of the adults were female; 64 per cent of all those enrolled were 35 years of age or younger (Table 1).

It is interesting to note that the occupational experiences of the students are rich with variation. This indeed, poses a challenge to one who would hope to meaningfully instruct a group of interested students composed of physicians, professors, housewives, secretaries, and grounds supervisors. However, since the content of the course is quite varied, the diverse needs and interests of the students were usually satisfied at some time throughout the course. The rest of the material covered in the course served as "enrichment" for the students.

Table 1. Characteristics of Adults Enrolled

Characteristics	Percent of those enrolled
Sex	
Male	64%
Female	36%
Homeowners	
No	20%
Yes	80%
Residence	
Urban	20%
Suburban	45%
Rural	35%
Ages	
35 and younger	64%
35 and older	36%
Occupational Status	
Professional (Teacher, Physician, Prof.)	15%
White Collar or Blue Collar	55%
Non-Employed	20%

Gain in Knowledge

Virtually everyone who completed both a pre-test and post-test showed a higher score on the post-test. On the pre-test, the lowest score recorded was 3 of 20 correct, while the highest score was 15 of 20 correct. The post-test results showed the highest score as 19 of 20 correct, while the lowest score was 12 of 20 correct. The students, as a whole, showed a 28 per cent average gain in post-test scores over pre-test scores.

While some of this gain may be attributed to a practice effect in taking the pre-test, this should not be a major factor since 10 weeks passed between the pre-test and post-test, the classes met only once a week, and no other tests were given during that period.

Conclusion

The course was taught winter quarter 1973 at The Ohio State University's Continuing Education Division and two branches of the Columbus YMCA. Enrollment in winter quarter was the highest with 68 students registering through the Continuing Education Division at Ohio State and 32 students at the two YMCA facilities.

The course was subsequently taught spring and autumn quarters 1973 through the Continuing Education Division at Ohio State with a total enrollment of 52 students. The YMCA facilities were used spring quarter only with 20 students registering. A total of 182 adult students have taken this course over the last year.

One gain from teaching these classes is a broadening of one's experience at teaching. Adults come to classes with a wealth of diverse interests, experiences, problems and ideas. This diversity requires a continuous effort on the part of the instructor to maintain a high level of competency across closely related areas. Another benefit from this experience is the projection of the University's educational system to the surrounding community. The satisfaction of having provided a needed service to members of the community is without monetary peer.

The students' evaluation of the course is valuable in that it highlights the strong and weak points of the course structure, as well as serving as a fertile ground for follow-up courses. For

example, many students expressed a strong liking for the terrarium construction session, while others expressed a strong liking for the landscape design principles. Still others expressed the desire to take another course dealing with design, maintenance, or plant identification. In this way, the adult educational program can continue to spread with relevant and timely material that

will not only be beneficial to the program but the community as well.

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HERBICIDE HANDBOOK ANNOUNCEMENT FOR WEED SCIENCE SOCIETY OF AMERICA

The third revision of the Herbicide Handbook of the Weed Science Society of America is now available. This new edition contains detailed biological and toxicological information on 132 herbicidal chemicals.

This handbook covers chemical herbicides which are currently commercially available or in development.

Thirty-four new compounds are included and the information on many of the old compounds has been revised and brought up to date. The official definition of terms as used in

Weed Science publications are given, tables of practical conversion factors are listed, and the Wiswesser Line Notation is included for all the chemicals.

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It's a bargain and only costs \$5. Make out your order and send your check or money order to: Weed Science Society of America, 113 N. Neil Street, Champaign, Illinois 61820.

Letter to the Editor **NOT AN IOTA**

by Max S. Marshall

405 Davis St., Apt. 1604 - San Francisco, Calif. 94111

The articles on IOTA (Instrument for the Observation of Teaching Activities) in the September issue of the Journal bother me, and they may bother others who are not so bold as to say so to you. Do these participants not realize that all teachers are imperfect, that some of the imperfections are remediable, and that trying to beat the remediable faults each of us sees in himself is a tough but individual task, not pertinent to generalizations and systems, to tables, charts, and students' opinions? The disguised goal of these persons is in plain sight, the improvement of teaching. A little time spent on that goal, collectively, might well be in order occasionally, but the main effort belongs to doing and to trying rather than to talking about it.

As for the two claimed needs, selecting winners for prizes and giving administrators report cards written by students, neither holds water. If, once in a while, the urge to reward a teacher who stands out rises spontaneously, let homage be paid, but to make

a business of it destroys the goal itself. A purported teacher who, to do his job, needs the grapes of Tantalus dangled before him, needs only a pink slip.

As for giving administrators alleged data, it is naive to suppose that formal data from inexperienced persons unacquainted with either the subject or teaching are valid, though of course these persons should be free to raise questions. It is even more naive to suppose that administrators are superhuman angels of justice who never, inadvertently or otherwise, will make use of such data when they fit a wanted decision or ignore them when they do not. It is odd to suppose that diverting students from the subject at hand to weighing the person talking about it is other than a noteworthy deterrent to this improvement in teaching.

May the goal, improved teaching, be approached honestly, and without organizational fanfare, rationalizations, and systems.

ACTION

by Helen E. Woodman,

Staff Recruiter, Office of Personnel Management

ACTION - Washington, D.C. 20525

The purpose of this article is to ask you for your assistance in our efforts to locate highly-qualified professionals for ACTION, in salaried positions, directing or participating in our Peace Corps programs overseas. The primary responsibility of my office is to identify and interest qualified individuals for immediate vacancies and also for a Talent Bank from which we draw candidates as vacancies occur. We are hopeful that you might know of such people.

As a bit of background, Peace Corps is now a part of ACTION, the Federal Volunteer Agency, which includes V.I.S.T.A., Older Americans Programs, and Educational Volunteer Opportunities, such as the U.Y.A. (University Year for ACTION). Peace Corps has approximately 7,500 volunteers and is currently in over sixty developing countries in three continents.

We think that the Peace Corps is every bit as exciting as it was when it was first created, because we have attempted to remain responsive to the needs of host countries. While there are still

substantial numbers of volunteers involved in education, we have growing programs in more specialized areas such as agriculture, health, public works or public administration.

We are looking for individuals who are capable of co-ordinating the efforts of these volunteers, who can work with host-country government officials at the ministry level on developing and evaluating programs, and who can play a vital role in the implementation of a country's growth and development plan.

While the specific qualifications for each position may vary, we are almost always looking for individuals who have an ability to develop, implement and evaluate programs through the use of volunteers. To do that successfully requires administrative and leadership skills, an ability to adapt and function within another culture, and experiences in developing programs. In addition, many positions require a language fluency (most frequently French or Spanish) and we give preference to individuals with demonstrated success in adapting to other environments.

Our vacancies range from technically-oriented positions, re-