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ABSTRACT

A horticultural training program was developed in conjunction with a prevocational program designed for students with limited ability to perform in a normal high school setting due to moderate intellectual impairment or socialization problems. Prior appraisal by the job developer of a client's adaptability to the program was required to provide realistic expectations of progress. A clear statement of the training objectives was combined with a detailed task analysis of the activities suggested for each client. Demonstrations and short, direct instructional cues were used to initiate job skill sequences. A structured work routine similar to a sheltered workshop was followed to instill confidence and avoid confusion. Clients also had to practice living skills such as taking public transportation to and from the worksite and interacting with visitors. Benefits included improved self-sufficiency and self-image. The program provides an alternative job skill training worksite for special education clients to which the job developer has continued to refer clients. Additional special schools have become affiliated with the horticultural training program. Contains 21 references. (BRM)

HORTICULTURAL TRAINING FOR ADOLESCENT SPECIAL EDUCATION STUDENTS

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Horticultural therapy uses plants and plant-related activities as treatment for persons with mental or physical disabilities, or for rehabilitation training for individuals with developmental disabilities to qualify them for transitional employment. The purpose of this paper is to describe a horticultural training program which was designed to improve behavioral and prevocational skills of adolescent students unable to attend regular high schools. Prior appraisal by the job developer of a client's adaptability to the program was required to provide realistic expectations of progress. A clear statement of the training objectives was combined with a detailed task analysis of the activities suggested for each client. Demonstrations and short, direct instructional cues were used to initiate job skill sequences. A structured work routine similar to a sheltered workshop was followed to instill confidence and avoid confusion in clients. Experienced clients were allowed to assist new clients to increase comraderie and build confidence. Parents were encouraged to cooperate at home with a token remuneration for successful completion of work tasks. Many clients requested to return to the program. For them, an improved self-image and degree of self-sufficiency was a worthy achievement. Continued job skill development was encouraged to increase clients' employability.

Introduction

The use of horticulture in prevocational and vocational programs (Frith & Edwards, 1982; AHTA, 1986) can be a significant area in habilitative training for developmentally disabled populations (Daubert & Rothert, 1981; Relf, 1980). Relf (1981) listed the following rationale for horticultural training programs: the existence of job opportunities for developmentally disabled individuals in the horticulture industry; the need for horticulture products and services within the community served; and the therapeutic and economic benefits of a horticulture program for its participants.

Training for job skills and employability have proven very successful for developmentally disabled populations within the horticulture industry (Hansen, 1969; Hefley, 1973). Richman (1986) reported an excess of 102,000 horticultural related entry-level jobs in the next decade, but there have been few concerted efforts to educate the horticulture and agriculture industries toward hiring the disabled. However, a national horticultural transition initiative, Horticulture Hiring the Disabled, has been established (Richman, 1986).

Rationale

Employability of individuals with developmental disabilities is a major priority in national service delivery systems (Elder, 1987). Studies (Wehman, 1986) show that over 250,000 developmentally disabled youth are exiting special education programs into adulthood each year. The Administration on Developmental Disabilities (State of Washington, 1986) estimated that only 5% of these students find employment. Other studies state that unemployment of disabled persons of all ages is as much as 50-70% (U.S. Commission on Civil Rights, 1983).

The Developmental Disabilities Act of 1984 (P.L. 98-527) addresses the need to integrate persons with developmental disabilities into employment to increase their independence, productivity and community involvement (AHTA, 1986). Systematically planned transitions to employment in business and industry are usually not available within the scope of vocational training and education programs or sheltered workshops (Firth & Edwards, 1982; Wehman, 1985). The service and employment needs of developmentally disabled individuals must be met by community-based models of transition which expand adult employment alternatives. Wehman (1986) addressed the need for a functional curriculum in integrated educational setting with community-based training opportunities.

The Education of Handicapped Children Amendments (P.L. 98-199 Section 626) included a Secondary Education and Transitions Services. This section authorized funds to be allocated for research, training and demonstration of projects based on systematic development of transition (Wehman, 1986). Transition has been described as "a carefully planned process ... to establish and implement a plan for either employment or vocational training of a handicapped student who will graduate or leave school in three to five years" (Wehman, 1986). This definition may be expanded to include individuals who leave workshop or training programs for sheltered or competitive employment (Perlman & Austin, 1986).

Program Implementation

Horticultural therapy is a dynamic profession which includes using the tasks and activities of gardening to benefit persons with disabilities (Airhart & Cronin, 1981; Relf, 1981; Thoday, 1978). Horticultural therapists can provide behavior and job skill training (Thoday, 1979) through structured programs to help a client develop an improved self-image and to acquire social skills while learning a trade (Hefley, 1973). Relf (1981) delineated two areas of service provision in horticulture industries: 1) product-based business which includes greenhouse operations, nurseries, florists, food production, herbs and specialized plants, and

2) service-based business which includes grounds maintenance, landscaping, retail sales, and plant related planning.

Hale (1981) described an indoor growing center for learning disabled students in a Hartford, Connecticut school system. The teachers of this program reported improvements in student' self-esteem, group dynamics, and problem solving within the context of gardening in the academic areas of science, math, English and history.

The purpose of this paper is to describe a horticultural training program developed (Airhart & Tristan, 1987) to cooperate with prevocational sites specifically designed for students with limited ability to perform in a normal high school setting due to moderate intellectual impairment or socialization problems. Students who were able to function outside of the classroom participated on a voluntary basis in various work experiences throughout the community, such as this horticultural training program. This program incorporated instruction in greenhouse management and related horticultural activities. The clients also had to practice living skills such as taking public transportation to and from the worksite, being familiar with work routine, and interacting with individuals who visited the program.

Program Cooperation

The clients were referred to the horticultural training program by their school's job developer, who provided a complete profile summary sheet (Hudak & Mallory, 1980) of each client. This summary included an assessment of abilities and disabilities, personal interests, work experience, family background and general comments. Thorough review of this material prior to client acceptance was essential to adequately approach and evaluate the needs of each client on an individual basis.

During an initial three to four week adjustment period, job compatibility and task ability were carefully monitored by the school job developer. A general plan of achievement, defined by specific work duties, was then devised for each client, yielding a more realistic level of expected work progress. The work activities included both greenhouse and outdoor gardening tasks relating primarily to areas of greenhouse management, sanitation, plant propagation and plant culture. One rest break was allowed during the work periods, and permission was required to leave the work area at all other times. The use of standard garden tools was required, along with any of the following tasks: maintaining sanitation in the greenhouse; preparing and amending ground beds; propagating plants; transplanting and repotting specimens; mulching; watering; fertilizing; preparing labels and signs; identifying and displaying plants; controlling weeds; and building a yearly compost heap.

Special activities (such as making flower arrangements, corsages, terraria, dish gardens, flower boxes, wreaths, pine cone decorations, bird feeders, and bonsai) were used as rewards for completion of the assigned tasks. These activities provided special incentive (Hefley, 1973) if the material was to be given by the clients as gifts to family or friends.

Generalized Programming Requirements

A solid structural format for the work process (Popovich, 1981; Thoday, 1979) was provided, promoting a sense of security to the work routine. A timetable of the activities of each day, with scheduled days, and working hours, was assigned to each client. Supervision by staff or horticultural therapy students on a one-to-one basis was preferred. A clear statement of work tasks in well defined steps was essential to provide a solid base for the client to undertake the tasks with certainty. Without it, confidence and self-independence could be delayed and could lead to a reluctance of skill mastery or job-related responsibilities.

Progress of a work routine, checked with a base time schedule allotted for each task (Hudak & Mallory, 1980), will vary depending on the level of client ability and work experience. Frequent demonstrations and graduated guidance while working side by side offer the most effective aids in task acquisition and comprehension (Popovich, 1981). Verbal instructions were kept short and direct, and were repeated only as needed to teach a skill. All prompts were faded gradually with intermittent reinforcement contingent upon successful effort. Encouraging an experienced client to provide instruction or assistance to a new client favored the development of self-reliance and pride, and comraderie. Some clients were given time slips for each successful work task; cooperating parents remunerated the client at home for task completion, providing parent-based reinforcement for a task well done.

Conclusion

There are multifaceted benefits to horticultural training programs according to Hefley (1973): intellectual benefits, social benefits, emotional benefits, physical benefits, activity training, and learning about plants. In addition, clients were able to practice previous skills acquired to improve their own lives. Through the horticultural training program clients developed skills, learned to recognize plants and describe their care, and gained a sense of job responsibility to bolster their self-esteem. A few clients abandoned the greenhouse program, but most clients stayed and improved their skills; some have requested to return to the program. For them, an improved degree of self-sufficiency in adult society was a worthy achievement.

The program has met the objective of providing an alternative job skill training worksite for special education clients. The job developer of the original cooperating school has continued to refer clients. Additional special schools have become affiliated with the horticultural training program.

Job placement has not been an objective of the horticultural training program, although it was a goal of many of the clients. Horticultural Therapy students have been utilized to provide some of the client training and supervision, and other horticulture students have assisted. These experiences have served to improve the abilities and professionalism of our future horticultural therapists. The horticulture industry is beginning to recognize the benefits of hiring persons with disabilities (Kominski, 1987). Horticultural training programs can provide the link between these two professions.

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