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ABSTRACT

These five papers deal with topics related to problems associated with transition from school to independent living for handicapped youth. "Individual Transition Plans: From Lip Service to Implementation" (Joseph Stowitschek, Cheryl Kelso) reports on a study to determine the extent to which individual transition planning is advocated by state education and vocational rehabilitation agencies and in what form. "Supported Employment: Program Features Compared to Outcomes" (Gregory Nelson, Joseph Stowitschek) describes a study to select a sample of programs high or low on selected programmatic outcomes and compare them to determine on which features they differed. "Salient Features Distinguishing Highly Active from Minimally Active Early Work Experience Programs for Mildly Handicapped Youth" (Marilyn Cohen et al.) discusses research to identify differences that exist in organizational structures and to examine distinguishing problem-solving processes that respond to obstacles presented in developing early work experiences. "The Employed Handicapped: Characteristics of Their Employers" (William Schill et al.) looks at employers who knowingly and purposefully hire handicapped individuals in terms of site size, location, and activity. "Employer Perspectives and Handicapped Employees Experiences: An Empirical Analysis" (William Schill et al.) assesses the careers of handicapped persons in the labor force. Each paper includes a bibliography. (YLB)

TRANSITION RESEARCH ON PROBLEMS OF HANDICAPPED YOUTH

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Transition Research on Problems
of Handicapped Youth
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FOREWORD

This publication, Occasional Papers #2, contains material on topics related to problems associated with transition from school to independent living for handicapped youth.

The "Institute for Transition Research on Problems of Handicapped Youth" U.S. Department of Education contract Number 300-85-0174, funded in part the activities which resulted in the syntheses of literature and the data reported in each of the papers.

All of the papers contained herein have been or will be submitted for publication by scholarly journals consistent with the dissemination requirements of the contract.

Additional copies of these occasional papers can be obtained in printed form or on MSDOS floppy discs from the address below.

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INDIVIDUAL TRANSITION PLANS: FROM LIP SERVICE TO IMPLEMENTATION

by

Joseph J. Stowitschek and Cheryl A. Kelso

We have often heard the admonishment about the kind of poor performance that prior planning prevents. But is transition planning being treated as the equivalent of performance? Is the job considered to be over once the plan has been formulated? Planning for transition from school to work for persons with handicapping conditions has become increasingly a focus of researchers, educators, and policymakers in the last decade (McCarthy, Everson, Inge, & Barcus; Halpern, 1985; Schmitt, Growick, & Klein, 1988; Wehman, Moon & McCarthy, 1986; Wetlin & Turner, 1985). Educational planners have explored and advocated policies to promote public and governmental awareness of the need for systematic transition planning. Two pivotal planning issues are the coordination of services and the evaluation of the outcomes of transition planning. In their review of state transition planning documents, Stowitschek & Brown (1988) found that substantial variation exists from state to state in the level of transition planning activity currently underway. Further, when educational planners are active, transition planning is often channeled into areas which generate questionable levels of commitment (e.g., as with many interagency agreements) (Cuenin, 1985).

Federal support of model and demonstration programs has typically been a means of spurring the implementation of policy, and there has been considerable transition model development activity associated with these federal initiatives. However, it has generally occurred independently of state and local planning processes. Models which must be superimposed on the existing service system run the risk of being considered by program administrators to be an undue extravagance. Likewise, the most carefully laid plans are of little utility if they lack substantive mechanisms aimed directly at the individuals for whom the planning was undertaken (Elmore, 1979-80). Individual Transition Plans (ITPs) have been created to translate transition planning into actual services provided to individuals. A set of "best practices" for individual transition plan development has emerged from the literature, but it is not clear whether those practices are reflected in policy decisions nor whether educators are actually implementing them as recommended.

A synthesis of the literature recommending "best practices" for individual transitions plans shows a pattern which is consistent with the research on effective generic educational practice.

The most frequently cited attributes of "best practices" are listed in Appendix 1.

All agree that ITPs must be longitudinal in nature (Wehman, Kregel, & Barcus, 1985). Recommendations for the onset of the transition planning process range from at least eighteen months prior to graduation (Brody-Hasazi, Salembir, & Finck, 1983; Schalock, 1986) to five (Stodden & Boone, 1987) or six years (Bates, Suter, & Poelvoorde, 1985) prior to graduation. However, their most common suggestion is that the process should begin either three years or four years prior to graduation (Halpern, 1986; Hardman & McDonnell, 1987; McDonnell & Hardman, 1985; McDonnell, Wilcox, & Boles, 1986; Wehman, Kregel, & Barcus, 1985; Wehman & Moon, 1985).

The longitudinal nature of the ITP calls for repeated reviews and updates of the plan. Most experts agree that ITPs should be reviewed and updated at least annually (Bates, Suter, & Poelvoorde, 1985; Halpern, 1986; Wehman, Kregel, & Barcus, 1985; Wehman & Moon, 1985). Brody-Hasazi and her colleagues recommended an update every six months (Brody-Hasazi et al., 1983).

As part of the review and update, a pilot period is recommended in which participants implement as many components of the transition plan as possible in order to identify and compensate for potential stumbling blocks (Hardman & McDonnell, 1987; McDonnell & Hardman, 1985).

Transition specialists also agree that the transition plan should be integrated with other individual plans for the student. Many researchers have recommended that the ITP be initiated either in conjunction with the IEP (Bates, Suter, & Poelvoorde, 1985; Wehman, Kregel, & Barcus, 1985; Wehman & Moon, 1985) or its adult service counterparts, the Individualized Habilitation Plan (IHP), or the Individual Work Rehabilitation Plan (IWRP) (McDonnell & Hardman, 1985; Wehman et al., 1985; Wehman & Moon, 1985).

Transition researchers have consistently stated that transition plans should be cooperatively developed by vocational and special educators, parents, students, and appropriate adult service professionals (Brody-Hasazi et al., 1983; Hardman & McDonnell, 1987; McDonnell & Hardman, 1985; Schalock, 1986; Stodden & Boone, 1987; Wehman et al., 1985). Adult service agencies mentioned were: vocational rehabilitation, community college, state employment service, or mental health (Brody-Hasazi et al., 1983), Developmental Disabilities (DD/MR) agency, and Vocational Rehabilitation (VR) (McDonnell et al., 1986). Although participants taking on major responsibility will change as the student progresses through the system, all participants should be involved in the initial development of the plan and remain on the transition team throughout the entire

process of vocational transition to assure continuity (Wehman et al., 1985).

Recommendations for evaluation activities for the transition plan are focused on use of uniform assessment procedures for individuals. Not only do uniform assessment procedures help structure the assessment of individuals, but they are also necessary to enable the development of a transition data-base (Bates et al., 1985; Johnson, Bruininks, & Thurlow, 1987; McDonnell & Hardman, 1985; Stodden & Boone, 1987). The evaluation of program-wide transition planning would also permit planners to develop a needs assessment data system to help identify student characteristics, projected employment, and independent living goals, and needed secondary/post-secondary services (Bates et al., 1985). The anticipated service needs identified by the data-base could then be used in plans submitted to federal and state agencies (Johnson, Bruininks, & Thurlow, 1987). The data could also be used to assess the impact of curriculum, instruction, and the transition planning system as a whole (McDonnell & Hardman, 1985).

Implicit in these recommendations for assessment of transition procedures and for a common transition data base is the need for uniformity in individual transition planning and for the evaluation of activities in the same areas. Stodden and Boone's (1987) set of nine transition adjustment variables mirror best practices recommended for inclusion in an ITP and corresponding data base (occupational placement/maintenance, income level, continued education, community leisure, transportation, residential arrangements, advocacy arrangements, medical/health needs, and personal/social adjustment).

These descriptions of "best practices" for Individual Transition Plans (ITPs) showed a great deal of consensus exists among researchers as to what should be done to effect a smooth transition from school to the work force. However, in light of the separation between model development and agency planning processes, research is needed to determine whether policy decisions are reflecting recommended practices and whether educators are then implementing those practices as recommended. Because of its potential as an implementation tool, the individual transition plan is a logical starting point for this research.

Purpose

The purpose of this study was to determine the extent to which individual transition planning is advocated by state education and vocational rehabilitation agencies and in what form. The question being addressed was, "To what extent do the practices currently being recommended by policymakers and implemented by educators reflect best practices as recommended by researchers?" Documents from Departments of Education, Vocational Rehabilitation Agencies, and Rehabilitation Services

Administration offices were requested from all of the states and protectorates. The documents received were then analyzed to select those addressing individual transition planning. A review of the literature was conducted to identify recommended "best practices" for transition planning. Practices culled from the documents received were compared with those recommended by researchers.

Subjects

The subjects for this study were comprised of the written documents supplied by responding agencies of the states, territories, and protectorates of the United States (henceforth referred to as states). Eligible documents fell into seven categories: (1) state cooperative agreements, (2) local cooperative agreements, (3) state service plans, (4) transition planning documents, (5) policy and procedures manuals of the responding agencies, (6) individual transition plans, and (7) other transition documents (e.g., training booklets, reports, and recommendations of transition advisory groups). Grant proposals and reports, conference proceedings, and promotional materials (e.g., brochures) were excluded from consideration as standard transitioning documents (see Stowitschek & Brown (1987) for definitions of the parameters of these seven categories).

Instruments

An initial document analysis form (Tranplan) was prepared to differentiate between topics addressed in the documents according to 12 generic categories and reported by Stowitschek and Brown (1987). Those documents addressing individual transition planning were further analyzed using a second ITP document analysis checklist (Appendix 2). This second checklist was based on recommendations pertaining to individual transition plans (ITPs) drawn from the literature cited and further grouped according to (1) the feature(s) of the ITP planning and implementation process described, (2) recommended service content of the plan (3) descriptions of persons who should be involved in developing the plan, (4) its longitudinal nature, and (5) assessment procedures.

Procedures

An initial request for documents from 10 Rehabilitation Services Administration (RSA) offices, 68 state vocational rehabilitation agencies and agencies for the blind, and 60 state special education agencies was mailed in the spring of 1987. In October 1987, a follow-up mailing of requests for documents was completed.

Two levels of document analysis were completed. For the level I analysis, documents were coded by state, date of document, and type of document using the Tranplan checklist. The reviewers of documents received were comprised of a project senior

investigator and four graduate assistants. All four graduate assistants had experience as special education teachers. Training of document reviewers was conducted using a "dry-run" review process with documents on hand. Reviewers read portions of the Tranplan analysis form and compared their recordings. They discussed their results and revised their procedures until they independently agreed on 80% or greater of the recording categories for a sample of three consecutive documents.

For the level II analysis, those documents which reviewers identified as containing information on individual transition planning were selected for further analysis using the ITP checklist. Documents were analyzed for areas identified as "best practices," coded as su[illegible] on the ITP checklist for each document and the results were combined to form a descriptive profile for each state.

Results

Documents were received from 52 of the 60 states and protectorates contacted (87%). Of these, 28 states returned documents identified in the Level I analysis as addressing the need for, plan for, or implementation of ITPs. Two state agencies, Texas and Wisconsin, sent letters indicating that transition document development was in process and that none could be made available as of yet. The representation of the respondents is geographically distributed with the exception that territories and protectorates are not well represented (4 of 9). All states with large populations responded.

A total of 331 documents were received which could be classified into one of the seven categories of acceptable documents using the level I analysis procedure. Of these documents, 58 (18%) either mentioned, described, or consisted of individual transition plans (Table 1). Almost one quarter of the documents analyzed were transition planning documents (22%) while the remainder of each of the document categories were represented in about 10% of the documents, with the exception of agency policy and procedures manuals (5%). Of the 28 states responding, 10 sent model ITP forms (requested from all). Documents were dated from 1984 to 1988 with 12 (21%) of the 58 undated.

From the level II analysis, it was apparent that, with the exception of a few highly active states, there was little documentation that indicated widespread advocacy of individual transition planning at the state level. Of the 60 states contacted, fewer than half (47%) mentioned ITPs at all, eight (13%) sent documents that described ITPs as being in effect, eight (13%) cited plans for their implementation, 19 (38%) recommended ITPs as good practice, and four (7%) have legislated their use (Table 2).

Of the 28 states with documents including mention of individual transition plans, 12 suggested planning of a longitudinal nature. Documents of nine states mentioned an annual review. Documents of one state included mention of a pilot period for the ITP. Documents of one-half of the 28 states included mention of the ITP in conjunction with the IEP. Documents of 13 states indicated the ITP should be a component of the IEP and one that it should be separate from the IEP. One state recommended that the ITP be a component of the IHP. Of the seven states mentioning the ITP as a component of the IWRP, five suggested it should and two indicated it should not be a component of the IWRP.

Of documents of the 21 states having mentioned the composition of the transition team, one recommended that the composition should remain the same throughout the process (Table 2). Recommendations for the composition of the team were in the direction that researchers have recommended. About one-half suggested that parents and students should be on the team, and about one-third recommended the inclusion of school staff. Adult service providers were recommended most often as team members although they varied on which service providers should be included. Specific mention was made of the developmental disabilities, vocational rehabilitation, and mental health agencies. Five states mentioned others such as: Goodwill (4%), employers (11%), and the Commission for the Blind (4%).

Of the documents of 28 states mentioning ITPs, 16 (57%) recommended specific areas for inclusion in the ITP. Vocational goals was the topic recommended as best practice by researchers that was also mentioned most in the responding states documents (see Appendix 1 and Table 3). Half of the 28 states including mention of ITPs recommended including vocational goals in the ITP. Ten states each (36%) included recommendations on goals regarding residential options, transportation, and social skills training and the names of persons providing services as needed for inclusion in the ITP. Nine states (32%) included mention of a timeline for the process, eight states (29%) included mention of leisure opportunities and seven states mentioned the need for a person or agency to assume major responsibility for the ITP. Fewer than one-fourth of the states included mention of the other areas recommended by the researchers for inclusion in ITPs. One state out of 28 mentioned the need for either monitoring of services or evaluation of ITP processes or outcomes.

While evaluation procedures are recommended by many researchers, documents of only one state clearly advocated them. Of the eight model ITPs sent, the model ITP of one state had objectives that contained observable and measurable behavior. None contained specific criteria for determining attainment of the objectives nor conditions under which behavior could be demonstrated. In no responding state's documents were objectives linked to ITP assessment or evaluation procedures.

Discussion

Three hundred and thirty-one transition documents from 52 of the 60 states, territories and protectorates were analyzed for treatment of transition planning. Of these documents, 58 documents included mention of individual transition plans. These 58 documents were further analyzed for how closely they fit "best practices" as recommended by transition researchers. Although there is some agreement about the functions of the ITP, there is very little agreement as to the process to actualize these functions. There is a paucity of documents reflecting planning for evaluation of outcomes or demonstrating concern for the specificity of goals or objectives. Several state agencies are demonstrating considerable leadership in facilitating the transition of handicapped youth into adult life. These states are consistently pointed out in the literature as the "stars" of transition programming. If the documentation received is representative, their efforts, albeit outstanding, are atypical.

A great deal of thought and discussion has gone into what should be done to facilitate the transition of handicapped youths from school to the workforce. Coordination of services and evaluation of transition planning have been the major thrust of recommendations to facilitate transition. A set of "best practices" reflecting these two areas of concern has been compiled from recommendations of transition specialists. Although state agency documents reflect concern for multi-agency, parent, community cooperation in transition programming, staff training, and evaluation of transition outcomes, the wherewithall to translate "best practice" into actual practice through individual transition planning appears to be a needed area of focus. Less than half of the documents included even mention of individual transition plans. Few states described them as generally in effect and fewer still have legislated their use.

Documents of 28 of 52 states, territories and protectorates included at least mention of individual transition planning, but there is a lack of specificity about the makeup or function of the plans. The two areas that most closely reflected "best practices," were the content of ITP goals and composition of the ITP team. Only 16 addressed the issue of what should be included in an ITP and fewer than half specifically recommended persons for inclusion on the team beyond service providers and parents of the individual.

One major area of concern, evaluation of transition outcomes, is, in many respects, the most important issue. Aside from those considered "stars," little emphasis was placed on specifying measurable goals or objectives. There was practically no mention of evaluation in connection with the ITP. Without systematic evaluation, it would be difficult to determine whether the plans are being implemented, much less having an impact on transition outcomes of persons with disabilities.

There is a distinct possibility that overly burdened educators will fall into the niche of paying lip service to the ITP requirement, write one for the student's file, and relegate transition programming to a paperwork process (Stowitschek & Kelso, 1988). There is also the possibility that, without systematic evaluation, even a conscientious educator may follow an ITP to the letter and have the plan fail to make a substantive difference in the quality of life for the transitioning student.

Both federal and state statutes mandate the collection of data to determine the effectiveness of their programs. School systems are required to collect and report data on students with handicaps leaving school. Vocational rehabilitation agencies must also collect data on their clients as measures of program and cost effectiveness. There is increasing evidence of the need for schools to systematically follow up on school completers and leavers (Edgar, 1987). The entire transition process is under evaluation and therefore should be part of the ITP process. When planned as a component of the ITP, mandated program evaluation could help redirect the education and training of the handicapped individual rather than become paperwork that is completed only for the federal government and having a dubious relationship to, or impact upon the life of that individual.

Aside from states who are in the forefront, this research shows little relationship exists between "best practices" as recommended by researchers and documented state practices or policies, regarding individual transition planning. However, change processes are underway and, while transition programming is still malleable, further research is needed to better understand and facilitate these processes. Perhaps these issues are being addressed in a more informal manner or perhaps policymakers see other issues as being of greater concern. It might also reflect a knowledge gap regarding "best practices" and a better way may be needed to disseminate this knowledge than through scholarly journals. For instance, expert system technology may be useful to more directly relate research knowledge to policymaking and implementation decisions affecting transition to adult life.

Further research is needed on whether those recommended practices are actually being implemented in the schools by educators. To what extent is implementation of transition programming in the schools guided by either research or policy decisions, or are school level personnel implementing their own policies independent of model program and research findings, or state agency policies? Further, does the implementation or lack of implementation of these transition practices have an effect on the quality of post-school adjustment or the quality of life for persons with disabilities?

If individual transition plans are to become more than lip service, implementers of the ITPs must concern themselves with

transition functions as well as form. Observable and measurable goals and objectives must be part of the plan. Moreover, these goals must reflect outcomes that can be evaluated to provide continual input development of sound transition programming. If a closer correspondence can be established between knowledge of effective transition practices, the means by which they are implemented and subsequently evaluated, prior planning may then produce practically perfect performance.

REFERENCES

Bates, P., Suter, C., & Poelvoorde, R. M. (1985). Illinois transition project: Transition plan development for special education students in Illinois public schools. Springfield, IL: Governor's Planning Council on Developmental Disabilities.

Brody-Hasazi, S., Salembir, G., & Finck, K. (1983, Summer). Directions for the 80s: Vocational preparation for secondary mildly handicapped students. Teaching Exceptional Children, 206-209.

Cuenin, L. H. (1985). The impact of cooperative agreements on the coordination of vocational services for the handicapped. Unpublished doctoral dissertation, University of Maryland.

Edgar, E. (1987). Secondary programs in special education: Are many of them justifiable? Exceptional Children, 51, 555-561.

Elmore, R. F. (1979-80). Backward mapping: Implementation research and policy decisions. Political Science Quarterly, 94, 601-615.

Halpern, A. S. (Draft Copy). Characteristics of a quality program. Unpublished manuscript, University of Oregon.

Hardman, M., & McDonnell, J. (1987). Implementing federal transition initiatives for youths with severe handicaps: The Utah Community-Based Transition Project. Exceptional Children, 53, 493-498.

Johnson, D. R., Bruininks, R. H., Thurlow, M. L. (1987). Meeting the challenge of transition service planning through improved interagency cooperation. Exceptional Children, 53, 522-530.

McDonnell, J, & Hardman, M. (1985, December). Planning the transition of severely handicapped youth from school to adult services: A framework for high school programs. Education and Training of the Mentally Retarded, 275-286.

McDonnell, J., Wilcox, B., & Boles, S. M. (1986). Do we know enough to plan for transition? A national survey of state agencies responsible for services to persons with severe handicaps. Journal of the Association for Persons with Severe Handicaps, 11, 53-60.

McCarthy, P., Everson, J., Inge, K., & Barcus, M. (1985). Transition from school to work: Developing the process for individuals with severe disabilities. Techniques, 1, 463-472.

Schalock, R. L. (1986). Service delivery coordination. In F. R. Rusch (Ed.), Competitive employment issues and strategies. Baltimore: Paul H. Brookes.

Schmitt, P., Growick, B., & Klein, M. (1988). Transition from school to work for individuals with learning disabilities: A comprehensive model. In S. E. Rubin & N. M. Rubin (Eds.), Contemporary challenges to the rehabilitation counseling profession (pp.93-110). Baltimore: Paul H. Brookes.

Stodden, R. A., & Boone, R. (1987). Assessing transition services for handicapped youth: A cooperative interagency approach. Exceptional Children, 53, 537-545.

Stowitschek, J. J., & Brown, D. (1988). Transition planning methods and progress: A national study. Institute for Transition Research on Problems of Handicapped Youth - Third Annual Report (William Schill, Principal Investigator), University of Washington.

Stowitschek, J. J., & Kelso, C. (1987). Are we in danger of making the same mistakes with ITPs as were made with IEP's? In W. J. Schill (Principal Investigator), Five transition policy studies including pertinent literature syntheses. Seattle, WA: University of Washington.

Wehman, P., Kregel, J., & Barcus, J. M. (1985). From school to work: A vocational transition model for handicapped students. Exceptional Children, 52, 25-37.

Wehman, P., & Moon, M. S. (1985). Critical values in employment programs for persons with developmental disabilities. In P. Wehman & J. Hill (Eds.), Competitive employment for persons with mental retardation (Vol. 1). Richmond, VA: Rehabilitation Research and Training Center, School of Education, Virginia Commonwealth University.

Wehman, P., Moon, M. S., & McCarthy, P. (1987). Transition from school to adulthood for youth with severe handicaps. Focus on Exceptional Children, 18, 1-12.

Zetlin, A., & Turner, R. (1985). Transition from adolescence to adulthood: Perspectives of mentally retarded individuals and their families. American Journal on Mental Deficiency, 89, 570-579.

APPENDIX 1

Attributes Cited as "Best Practices"

1. Annual goals and short-term objectives (Wehman, Kregel, & Barcus, 1985; Schalock, 1986; Wehman, Moon, & McCarthy, 1987)

2. Appropriate vocational options (Brody-Hasazi, Salembir, & Finck, 1983; Hardman & McDonnell, 1987; McDonnell & Hardman, 1985; Schalock, 1986; Schmitt, Growick, & Klein, 1988; Wehman, Kregel, & Barcus, 1985).

3. Residential options (Brody-Hasazi, Salembir, & Finck, 1983; Hardman & McDonnell, 1987; McDonnell & Hardman, 1985; Schalock, 1986; Wehman, Kregel, & Barcus, 1985).

4. Leisure opportunities (Hardman & McDonnell, 1987; McDonnell & Hardman, 1985; Schalock, 1986; Wehman, Kregel, & Barcus, 1985).

5. Case management services (Hardman & McDonnell, 1987; McDonnell & Hardman, 1985).

6. A program to establish eligibility for services (Hardman & McDonnell, 1987; McDonnell & Hardman, 1985; Wehman, Kregel, & Barcus, 1985).

7. A program to monitor eligibility for services (Hardman & McDonnell, 1987; McDonnell & Hardman, 1985).

8. Long-term support (Hardman & McDonnell, 1987; McDonnell & Hardman, 1985).

9. Names of persons who will be providing services (Brody-Hasazi et al., 1983; Wehman et al., 1985; Wehman & Moon, 1985).

10. Names of agency or persons who will assume major responsibility for initiating and following through on the plan (Bates et al., 1985; Brody-Hasazi et al., 1983; Hardman & McDonnell, 1987).

11. Transportation to and from work (Wehman, Kregel, & Barcus, 1985).

12. Money management (Wehman, Kregel, & Barcus, 1985).

13. Social skills training (Wehman, Kregel, & Barcus, 1985).

14. Timeline for activities (Brody-Hasazi et al., 1983; Hardman & McDonnell, 1987).

Appendix 1 (Continued)

15. Concrete outcomes of transition services (Brody-Hasazi, Salembier, & Finck, 1983; Wehman, Kregel, Barcus, & Schalock, 1985).

16. Evaluation of activities (Brody-Hasazi et al., 1983; Hardman & McDonnell, 1987; Johnson et al., 1987; McDonnell & Hardman, 1985; Stodden & Boone, 1987).

APPENDIX 2

ITP Checklist

State_____ Document Number_____ Date of Document_____

1. What type of document is being analyzed?_____

2. Is the ITP:
   ____ a. in effect?
   ____ b. planned for implementation?
   ____ c. recommended as a good practice?
   ____ d. required by law
   ____ e. not mentioned in document

3. Is there a model ITP included in the document?
   ____yes ____no

4. Is the transition plan a component of the IEP?
   ____yes ____no ____not mentioned in document

5. Is the first Individualized Habilitation Plan (IHP) part of the transition plan?
   ____yes ____no ____not mentioned in document

6. Is the transition plan a component of the Individual Written Rehabilitation Plan (IWRP)?
   ____yes ____no ____not mentioned in document

7. How long prior to graduation does formal transition planning occur?
   ____years __months ____not mentioned in document

8. How often is this transition plan reviewed and/or updated?
   ____years __months ____not mentioned in document

9. Are the transition plans developed by:
   ____ a. School staff?
   ____ b. Parents?
   ____ c. The student?
   ____ d. Adult service providers such as:
   ____ Developmental Disabilities (DD/MR) agency?
   ____ Vocational Rehabilitation (VR)?
   ____ Mental Health agency?
   ____ Community College staff?
   ____ Others? _____
   ____ e. not mentioned in document

10. Do members of the "transition team" remain the same for the duration of the transition period?
   ____yes ____no ____not mentioned in document

Appendix 2 (Continued)

11. Which of the following areas are addressed by the ITP?
____ a. Vocational options?
____ b. Residential options?
____ c. Leisure opportunities?
____ d. Case management services?
____ e. A program to establish eligibility for services?
____ f. A program to monitor eligibility for services?
____ g. Long-term support?
____ h. Names of persons who will be providing services?
____ i. Names of agency or persons who will assume major responsibility for initiating and following through on plan?
____ j. Transportation to and from work?
____ k. Money management?
____ l. Social skills training?
____ m. Timeline for procedures?
____ n. Evaluation procedures?
____ o. not mentioned in document

12. Do objectives contain observable and measurable behavior?
____yes ____no ____not mentioned in document

13. Do the objectives contain specific criteria for mastery?
____yes ____no ____not mentioned in document

14. Do the objectives contain the conditions under which the behavior will be demonstrated?
____yes ____no ____not mentioned in document

15. Are the ITP objectives linked to ITP assessment?
____yes ____no ____not mentioned in document

16. Does the ITP provide for a pilot period to implement as many of the components of the ITP as possible?
____yes ____no ____ not mentioned in document

17. Is there a single person coordinating the transition plan?
____yes ____no ____ not mentioned in document

18. Who is responsible for coordinating the transition plan?
_____ _____
____ not mentioned in document

TABLE 1

TYPE OF DOCUMENT

Description of Types	N of 58 Documents	%
State Cooperative Agreements	6	10
Local Cooperative Agreements	7	12
State Plans	6	10
Transition Planning Documents	13	22
Agency Policy and Procedures Manual	3	5
Individual Transition Plan	5	9
Other Transition Documents	18	31

TABLE 2

ITP TEAM MEMBERS RECOMMENDED BY THE 28 STATES

Team Members	N	%
School Staff	8	29
Parents	15	54
Student	13	46
Adult Service Providers	19	68
Developmental Disabilities Agency	4	14
Vocational Rehabilitation	9	32
Mental Health Agency	4	14
Community College Staff	0	0
Others	5	18

TABLE 3

AREAS RECOMMENDED FOR ITP CONSIDERATION BY THE 28 STATES

	N	%
Vocational Options	14	50
Residential Options	10	36
Leisure Opportunities	8	29
Case Management Services	5	18
A Program to Establish Eligibility for Services	4	14
A Program to Monitor Eligibility for Services	1	4
Long-Term Support	4	14
Names of Persons Who Will Be Providing Support	10	36
Person or Agency Assuming Major Responsibility for ITP	7	25
Transportation	10	36
Money Management	4	14
Social Skills Training	10	36
Timeline	9	32
Evaluation Procedures	1	4
None of the Above Were Mentioned in Documents	12	43

SUPPORTED EMPLOYMENT: PROGRAM FEATURES COMPARED TO OUTCOMES

by

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Abstract

The current literature which discusses supported employment activity of developmentally disabled people is replete with arguments for supported employment, successes of individual programs, cost benefits of work and supported employment, and comparisons between model supported employment operations and sheltered workshops. Relatively little attention has been given to the broad range of ongoing supported employment programs--both those perceived to be successful and those perceived to be struggling. The purpose of this study was to select a sample of programs that were high or low on selected programmatic outcomes, and to compare their program, staff, client, and demographic characteristics to determine on which features the programs differed. Programs high on outcomes tended to have larger supported employment client loads; to have a higher proportion of mildly disabled clients; to have more of their clients placed in individual rather than group settings; to operate in more densely populated areas; and to have a more highly-educated staff than programs low in outcomes. Additional findings are discussed, and interpretations of the results offered.

Introduction

During the past decade, success of employment programs for developmentally and other disabled workers has been documented (Jacobs, 1978; Brickey & Campbell, 1981; Brown, Shiraga, York, Kessler, Strohm, Rogan, Sweet, Zanella, VanDeventer, & Loomis, 1984; Rhodes & Valenta, 1985), and developmentally disabled workers have demonstrated that they are capable of productive employment (Bellamy, Rhodes, Bourbeau, & Mank, 1982).

Most recently, supported employment programs have received a considerable amount of attention in the literature and from various funding agencies. Supported employment, defined in the Federal Register (1987) as "competitive work in an integrated setting for individuals who, because of their handicaps, need ongoing support services to perform that work," is an attempt to place disabled people in their communities and is an alternative to the sheltered workshop model. Rhodes (1981) has contended that supported employment is a viable alternative to competitive employment for many disabled persons who are unable to compete on their own with non-handicapped workers. Cost-benefit

analyses of supported employment have been described and evaluated (Rhodes, Ramsing, & Hill, 1987) and have generally found supported work programs to be cost effective (Hill & Wehman, 1983; Noble & Conley, 1987), although this conclusion has also been questioned (Lam, 1986).

The assumption that people in sheltered programs learn the basic skills and behavior which make it possible to move into competitive employment is unsubstantiated. Bellamy, Rhodes, Bourbeau, and Mank (1982) found that one-third of those who move into employment outside of sheltered workshops do so within three months of entering the workshop, and 75% do so within one year. Appell, Williams, and Fishell (1962, 1964-65) likewise found that those who do successfully move from a sheltered environment to a competitive job tend to be those who spent the least amount of time in the workshop, and that longevity on the job is associated with brevity in the workshop. Most severely handicapped people remain in segregated institutions, day activity programs, and work activity centers (Rhodes & Valenta, 1985).

The literature on supported employment is largely characterized by either follow-up studies of more successful programs and identification of individual worker characteristics that contribute to successful job acquisition and retention, or program models and guidelines of "best" practices.

Regarding individual worker characteristics and program practices, researchers have substantiated that: job performance and productivity influence a company's decision to hire a disabled person (Mithaug, 1979); social skill factors contribute to the reasons disabled people lose their jobs (Greenspan & Shoultz, 1981); a finely detailed and closely followed job description influences successful job maintenance (Brickey, Browning, & Campbell, 1982); and on-the-job support and follow-up improve job retention (Ford, Dineen, & Hall, 1984). Follow-up studies have assessed the pre-employment preparation as well as the current employment status of disabled workers (Hasazi, Gordon, Roe, Finck, Hull, & Salembier, 1985; Hawkins, 1984; Tarr & Lewis, 1977; Wehman, Hill, Goodall, Cleveland, Brooke, & Pentecast, 1982; Wehman, Kregel, & Seyfarth, 1985). The information derived from such studies is valuable, but the generalizability of the findings to the general population of service providers is unknown. Levels of client job acquisition and retention, for example, have been found to vary dramatically from service provider to service provider in a state-wide sample (Williams & Stowitschek, 1988).

The models and guidelines literature includes common-sense advice (Minton, 1977; Payne & Chaffin, 1968; Salamone, 1971); conceptual models (Everson & Moon, 1987; Kiernan & Stark, 1986); resource manuals (Bellamy, Rhodes, Mank, & Albin, 1988; McLoughlin, Garner, & Callahan, 1987); and expert advice (Mithaug, Hagmeier, & Haring, 1977; Rusch & Schutz, 1979;

Wehman, Hill, & Koehler, 1979; Wehman & Kregel, 1985). Mank, Rhodes, and Bellamy (1986) describe four models of supported work: (1) the Supported Jobs Model, which provides support as needed for an individual to learn and perform work in a regular job in the community with non-handicapped peers; (2) the Enclave Model, which trains and supervises a group of disabled individuals to work together within a business or industry in the community; (3) the Mobile Crew Model, which is a small, single purpose, business which trains and supervises a group of disabled individuals operating in the community as a mobile work crew; and (4) the Benchwork Model, which provides employment in electronics assembly work in a service agency that also functions as a business enterprise.

Though the model approach is well-founded and well-documented, it too frequently does not consider idiosyncratic factors that might play a role in the implementation of the model on a broad scale. For example, the ability to implement a particular model--or the choice of which model is the "best" one--might be affected by such factors as economic climate (national and local), specific demographic features (population density, labor pool characteristics, mass transit), client characteristics (kind and severity of client disability, living arrangements), and existing staff characteristics (years of experience, formal education, continuing workshop and conference involvement).

Of concern is whether the results of model programs may be in stark contrast to the conditions experienced by the broad spectrum of service providers currently funded by state agencies to provide supported employment services for persons with developmental disabilities. The purpose of the present study, therefore, is to compare the characteristics and operations of a variety of supported employment programs--not just the programs deemed successful or following a particular model, but also those which have neither distinguished themselves nor received attention for their efforts.

Method

Design and Sample

Twenty-four day activity programs were selected from the total population of those in the state of Washington providing supported employment services for persons with developmental disabilities. Selection was limited to those programs ranked highest (n=12) and lowest (n=12) on a composite of three outcome criteria: load, the proportion of the program's total vocational load of persons with developmental disabilities being served in supported employment; wages, the average wage of all the program's clients with developmental disabilities currently in paid supported employment; and guidelines, the proportion of the program's paid supported employment clients with developmental

disabilities who meet strict DDD supported employment guidelines (working at least 20 hours a week; wages based on at least a minimum-wage/productivity formula; and an integration requirement of no more than eight persons with developmental disabilities working in proximity). These particular criteria were selected partially because they represent supported employment goals that are frequently cited in the literature, and partially because other possible criteria (e.g., level of disability served, productivity, client satisfaction) were not readily extracted from the data available to us at the time of sampling.

The intent of the study was for the sample not to over-represent any particular size program (small, medium, or large vocational client load) or service type (supported employment only or supported plus sheltered employment), so the population of programs was blocked into six cells (Size X Service type) from which were selected the two highest and two lowest programs on outcome, the composite of the three criteria mentioned above.

Determining the population. Discussions with representatives of the Washington Division of Developmental Disabilities (DDD) and the Division of Vocational Rehabilitation revealed that all the programs receiving state funding for supported employment services would be represented on the DDD data files on funded vocational services (the CHRISS files). A review of the CHRISS files showed 67 programs in 29 DDD service districts currently providing supported employment services for persons with developmental disabilities. Since the latest CHRISS reports were four months old (and, at the time of the initial phone calls, the reports available were eight months old) and since some of the entries contained inconsistencies, the county coordinators of all 35 DDD service districts were contacted to verify which programs in their counties were in fact offering supported employment. In addition, the county coordinators ranked the programs in their district against each other and against the rest of the state on whatever criteria constituted "success" for them, and finally commented upon the proposed ranking criteria. The judgments of the county coordinators served as a check on the ecological validity of the procedures used for classifying programs as high or low on outcomes.

Based on the discussions with the county coordinators, seven programs were removed from the list of supported employment service providers, either because they were subsidiaries of other programs already on the list or because they no longer offered supported employment. Fourteen programs which either had recently begun offering supported employment or for some other reason were not listed on the CHRISS files were added to the list. Finally, three programs were not considered for sample selection, either because they were too new to yet have clients earning wages or because their supported employment programs were not currently operating due to their seasonal nature.

The population from which the sample was drawn, then, was 71 programs in 30 DDD service districts in the state of Washington, representing 1,253 persons with developmental disabilities who were currently receiving supported employment services.

Ranking programs on outcomes. Using the CHRISS files, the 71 programs were subdivided into those offering only supported employment (n=34) versus those also offering sheltered vocational services (n=37). Programs in each service type were then ranked by size of client load and divided such that all six cells contained from ten to thirteen members (for single-service programs, the vocational client loads ranges were 1-7 in the small, 8-19 in the medium, and 20-71 in the large; for the multi-service programs, the comparable ranges were 7-37, 38-61, and 62-147).

Programs in each cell were rank-ordered by the first outcome criterion, load. For the single-service programs (for all of whom load was by definition 1.00), rank ordering was done by the second outcome criterion, wages. Selection as a high or a low outcomes program was based on further rank ordering the four highest and four lowest ranked programs in each cell on the remaining outcome criteria and adding the ranks to form a composite outcomes rank. In the event of a tie on the outcomes variable, the program ranking higher/lower on the first ranking criterion was selected.

The two highest ranked and two lowest ranked programs from each cell were selected for inclusion in the sample. If the county coordinator had expressed a contradictory opinion about the selected program's outcomes (e.g., if they had said they thought the program was among the twelve least successful in the state but our criteria placed them in the high group on the outcomes variable), that program was excluded from the sample and the next program on the composite ranking scale was selected. One program was eliminated in this manner from the high group, and two from the low.

All 24 of the programs initially contacted for inclusion in the study agreed to participate. One medium-sized multi-service program in the low group asked to be excused from the study midway through the study and was replaced by the next lowest program within that cell on the composite ranking scale. The classification of three of the programs as single- or multi-service was changed after the study commenced, based on information provided by the program directors and confirmed by the DDD county coordinators. These three re-classified programs were kept in the sample, even though two of them no longer met strict selection criteria in their new cells. If the retention of these two programs in the study has any biasing effect on the data, it should be one of decreasing rather than increasing the discriminability of high and low programs using the various outcomes criteria.

The sample, then, consisted of 24 programs in 16 counties, employing 127 supported employment staff and providing supported employment for 522 persons with developmental disabilities.

Procedure

A Director interview instrument was developed to gather factual information about program histories and current operations as well as director opinions on various supported employment issues. Categories of anticipated responses to opinion questions were formulated, based on results of an earlier survey of supported employment (Williams & Stowitschek, 1988), a review of the literature, and conversations with service providers. Opinion questions were asked in a three-stage process: eliciting spontaneous comments from the directors on the topic; then asking them to verify the coding of their responses into the instrument's categories; and finally, reading the categories which they had not spontaneously mentioned and asking whether they agreed or disagreed with the item.

An a priori decision was made to generate a frequency table of all the categories spontaneously mentioned by the first eight directors interviewed, and to modify the instrument's break-out categories if necessary to more closely match the range of responses being elicited. The coding categories on five of the questions were revised for the remaining interviews, and those directors already interviewed were re-contacted to verify the recoding of their spontaneous comments and to ask whether they agreed or disagreed with the new categories added.

After field-testing the instrument with one program director not selected for the sample and practicing a revised version of the instrument with a person familiar with interview protocols, it was decided to shorten the interview by gathering some of the client and staff information from mailouts to programs rather than from interviews. The interview took approximately one hour to complete, either all in one session or in two half-hour blocks. Incomplete or ambiguous information was clarified using follow-up phone calls.

All 24 of the client information forms were either filled out and returned or the information was given over the phone. Of the 127 staff members working in supported employment in these programs, 108 (83.7%) returned the mailed-out staff information forms. Non-responses were similarly divided between high and low groups (12 for high, 9 for low).

Two graduate student research assistants were trained to use the interview instruments until an overall coding agreement of 90% (Number of responses coded the same / Total number of responses coded x 100) was achieved. The order in which program directors were interviewed was randomized, as was assignment to interviewer. In addition, six programs were randomly designated as inter-rater agreement checks. For those interviews, the

second coder silently listened to the interview on a duophone intercom, separately and independently coding the responses. Since only 1,050 clients out of 1075 (97.7%) receiving vocational services funding through DDD are classified as mentally retarded in addition to their other disabilities, it was decided to use summaries by program of level of mental retardation of clients being served as an index of the overall level of disability the programs were serving. Those clients for whom no definite classification was assigned (90 out of 986 clients listed, or 9.1%) were excluded from the totals upon which percentages were based.

Demographic data for testing our hypotheses concerning the influence of population density or general employment patterns on outcomes were taken for the State of Washington Data Book (1987). The county within which a particular program operated was used as the reference point.

Analysis of the variables for their ability to discriminate between high and low groups was done using a combination of t-tests, ANOVAs between independent groups, and multiple regressions. A two-tailed alpha level of .05 was used for all tests. A number of caveats are in order regarding the use of these inferential statistics. Programs within the six cells of our block design were not randomly select; rather, the extreme outcomes values were selected within each cell. This has two effects upon the conclusions that can be drawn from the data: it means that the differences being tested are between high and low outcomes groups, not the total population; and it means the assumptions underlying the parametric statistics used for analysis are not strictly being met. This, coupled with the large number of inferential tests of significance and the unadjusted alpha levels, means any significant findings must be treated with caution. However, considering the exploratory nature of this study, the necessarily small sample size, and the fact that the extreme variability within the sample on all measures made it difficult for any trends in the data to reach statistical significance--the analytic techniques chosen were considered warranted.

Results and Interpretation

Results of two reliability indices are presented: the inter-rater agreement in coding interview responses; and the relationship between the data gathered in this study and the CHRISS files on the outcomes criteria (the latter check also serves as an indication of whether high/low groups were actually formed in the sample). Next, results are presented of analyses involving the size of the vocational program (small, medium, or large) and the service type (single- or multi-service), to determine whether either varied systematically with the outcomes criteria.

The outcomes variable are then used to divide the sample into high and low groups, and demographic, program, client, and staff characteristics are subsequently compared. Finally, multiple variables hypothesized to be related to the outcomes variable are combined to determine how well high and low outcomes programs can be differentiated based on the variables measured. Results of the the data on program director opinions can be found in the Appendix A.

Inter-Rater Agreement

Inter-rater agreement in coding interview responses was computed by comparing the coding agreements to the total number of responses coded for six subcategories of questions (factual statements regarding the program, clients, or staff; opinions regarding the program, clients, or staff). Coding reliability was high (ranging from 92% to 100%) and consistent across data types (factual questions averaged 97% agreement, opinion questions 98%). It should be noted that this test is a limited reliability check, testing only coding accuracy, not consistency of interviewing procedures.

High and Low Groups Compared on Outcomes Criteria

Since the assignments to outcomes level were based on the CHRISS datafile, which is only updated bi-annually, it is worth checking how well the high and low outcomes groups can be discriminated using the program director-supplied data compared to the CHRISS data. If in fact high groups cannot be distinguished from low groups in our sample-generated data, even on the criteria upon which those labels were assigned, there would be little point in pursuing the distinction with further data analysis.

Table 1 contains two mean values for each of the three outcomes criteria--one from the CHRISS files, the other from the program directors. Regressions were computed to test how well the sample-generated data values could be predicted from the CHRISS data.

The closest match-up is on the criterion of percentage of vocational load being served in supported employment--over 98% of the variance in our measure is accounted for by the CHRISS selection data [$r=.99$, $F(1,9)=475.6$, $p<.001$]. The wage measures were also fairly well matched [$r=.90$, $F(1,22)=90.7$, $p<.001$], although the data from the present study is somewhat lower for the high group and somewhat higher for the low group than the CHRISS values.

The guidelines criterion proved less useful. Both groups to some extent--but especially the low group--reported higher proportions than are indicated in the CHRISS files. Little more than 25% of the variance in the present study's measure is accounted for by the CHRISS selection measure [$r=.51$,

$F(1,21)=7.37$, $p<.05$]. Discussions with the Director of Supported Employment Services for DDD revealed that many programs simply failed to mark the column where they are to indicate a client has met the guidelines, and non-responses are treated as meaning guidelines are not being met.

In any case, the ability to produce high and how groups on the guidelines criterion is compromised, and comparisons of program features to the guidelines criterion should be viewed with some caution.

Relation of Program Size and Service Type to Outcomes Criteria

Figures 1(a)-1(c) provide evidence regarding the relationship between the outcomes criteria we selected and program size and service type, both for the sample data and for the CHRISS data on all 71 programs. Since the trends in the high/low sample and in the population are very similar--and since interpreting the population data offers greater generality and a larger N--only the analysis of the population data is provided here.

Visual inspection of Figures 1(a) and 1(b) reveals an interaction between size and service type for both the wages and guidelines variables, with single-service programs increasingly outperforming multi-service programs as size increases. Two-way ANOVAs (Size x Service type) confirmed that these interaction effects were sufficiently large [$F(2,65)=2.62$ for wages, $p=.08$; $F=3.16$, $p<.05$ for guidelines] that service and size effects were analyzed separately using one-way ANOVAs.

Single- and multi-service programs did not differ significantly on the proportion of clients meeting strict supported employment guidelines [$F(1,69)=0.58$], but did on average client wages--single-service programs tended to have clients with higher wages [$F=5.48$, $p<.05$). Larger single-service programs tended to have more of their clients making higher wages and meeting strict supported employment guidelines [$F(2,32)=5.80$ for wages and 4.77 for guidelines, $p<.05$ for both], but no size-related trends were present in the multi-service programs [$F(2,33)=0.78$ and 0.27 respectively, NS]. The trend evidenced in Figure 1(c) for larger multi-service programs to have a smaller proportion of their load in supported employment is what one would expect, and was almost statistically significant [$F(2,33)=2.90$, $p=.07$].

Turning to the sample data, the size variable was compared to other program features to see what might help account for the interaction of size and service type on outcomes. Intuitively, one might suspect that programs in the sample with larger vocational loads had better outcomes because their supported employment programs were also larger. Figure 1(d) reveals that this assumption is only warranted for single-service programs [$F(2,10)=29.17$, $p<.0001$ for single, $F(2,8)=0.18$; NS for multi]. Therefore, the various outcomes criteria seem to be covarying

with the size of the supported employment load, not with the size of the total vocational load. The large programs also tended to occur in more densely populated areas and in areas with lower unemployment [$t(22)=2.56$ and 2.42, $p<.05$ for each], which could potentially account for their ability to find more jobs for clients in the community.

Single-service programs did not differ significantly from multi-service ones on these demographic variables. Single-service programs were, however, more likely than multi-service ones to have their clients in individual rather than group placements [63% versus 26%, $t(22)=2.06$, $p=.05$] and to have fewer clients on mobile crews [2.3 versus 7.5, $t(22)=1.63$, $p=.13$]. As subsequent analyses show, the number of supported employment clients--especially a larger number in individual supported employment and a smaller number in mobile crews--is a better predictor of outcomes than the number of vocational clients overall. Single-service facilities also showed a tendency to have a large proportion of mildly disabled clients [59% versus 39%, $t(21)=1.68$, $p=.11$], which could also help explain superior outcomes.

Size and service type did not covary significantly with other variables one might expect would make a difference in outcomes. Large and single-service programs had not necessarily been offering supported employment longer; nor did they have clients with more years of supported employment experience; nor did they have staff with higher salaries or more in-service training. The only other predictor that approached statistical significance was a tendency for more of the staff in single-service programs to have a post-secondary degree [$t(21)=1.90$, $p=0.07$].

Program Characteristics of High and Low Outcomes Groups

Table 2 contrasts high and low programs in our sample on various aspects of their program's supported employment history, client load, and client and staff characteristics. The table is arranged vertically in order of increasing specificity: first sheltered versus supported employment, then individual versus group supported employment, and group supported employment types compared to one another.

Most of the programs in both groups had already been in business a considerable period of time before starting supported employment services. In fact, only four programs from the high group and two from the low came into existence specifically to offer supported employment. The high and low outcomes programs did differ, however, in how long they had been offering particular types of supported employment. The high group tended to have been offering individual supported employment longer than the low [$t(22)=4.22$, $p<.001$] and group supported employment less long [$t(22)=1.01$, NS]. Within groups, the tendency to have

offered group supported employment longer than individual supported employment was statistically significant for the low group [$t(11)=3.30$, $p<.01$].

The same differences between individual and group supported employment are present in the next column, which shows more individual supported employment models currently operating in the high outcomes programs than in the low [$t(22)=2.76$, $p<.05$], with the reverse trend existing for group supported employment [$t(22)=1.25$, NS]. (Note: The number of models currently operating doesn't sum to 24, since five of the high group and two of the low are currently offering multiple supported employment options].

One caution is in order in interpreting this result: To surmise that the low group tends to have been doing group supported employment longer than the high or to have more group programs currently operating can be deceptive. Note that the mobile crews row is the only one in which these trends are true; the other two group models lean in the opposite direction.

Client Characteristics of High and Low Outcomes Programs

Another indicator of the high group's emphasis on individual supported employment is the average number of years the program's clients have been in supported employment. Again, it is only when individual and group supported employment are differentiated that differences between high and low outcomes programs emerge. In individual supported employment, clients in high outcomes programs tend to have been in supported employment longer [$t(166)=2.91$, $p<.05$]. In group supported employment, the high group also exceeds the low in every supported employment model except mobile crews [$t(111)=1.53$, NS]--significantly so for both enclaves [$t(59)=4.23$, $p<.001$) and entrepreneurial businesses [$t(47)=3.95$), $p<.001$].

As has been mentioned, even though the sampling procedures balanced the high and low outcomes groups for size of total vocational load, Table 2 shows the high group having fewer sheltered vocational clients [$t(10)=1.09$, $p=.28$, NS] and more supported employment clients [$t(22)=2.06$, $p=.05$]. It also reveals that, within supported employment, it is largely in the individual supported employment services that group differences lie, either when comparing number of clients [$t(22)=3.36$, $p<.01$] or proportion of clients [$t(22)=2.14$, $p<.05$]. Again, mobile crews accounted for a high proportion of the group supported employment effect [$t(22)=2.15$, $p<.05$].

It was felt that perhaps programs had better outcomes simply because they were serving more mildly disabled clients. If such were the case, it would help explain why programs high on the outcomes variable were getting more of their clients into individual supported employment. Table 2 contains a summary of

the percentage of mildly retarded clients in each of the services offered by that program. Consistent with the above hypothesis, the mental retardation data parallels the data on number of clients placed: high and low outcomes programs tended to be similar overall; the high outcomes programs tended to have individual supported employment programs with a higher proportion of mildly retarded clients [$t(10)=1.18$, NS] and group supported employment programs with a lower proportion of mildly retarded clients [$t(12)=2.18$, $p=.05$]; and the group supported employment differences are strongest in mobile crews [$t(10)=2.39$, $p<.05$].

The differences between high and low outcomes groups are perhaps best understood by looking at the series of comparisons in Figures 2(a)-2(d). Figure 2(a) indicates that the low group had a larger vocational client load in the moderate to profound retardation range, while the high group had more mildly retarded vocational clients. Almost all of the group differences in the moderate to profound range, however, occurred in the sheltered employment category. The high group had as many or more clients in supported employment in each mental retardation category, and Figure 2(b) reveals that they had a higher proportion of their vocational clients in supported employment in all categories. The greatest difference between groups in the mild to moderately retarded range, where the high group was placing over three quarters of their clients in supported rather than sheltered positions, as opposed to little more than a third for the low group.

The fact that the high outcomes group had more mildly retarded supported employment clients helps to explain their higher outcomes levels. They are not, however achieving their high outcome levels by ignoring the more severely handicapped population--they are supplementing their services to that group with a large number of individual supported employment placements for the mild to moderately handicapped population.

Figures 2(c)-2(d) depict subcategories of supported employment. Figure 2(c) dramatically illustrates that the high outcomes group preferred individual supported employment placements more than did the low outcomes group. In the high group, as mental retardation becomes more severe, the likelihood increases that the client will be placed in a group rather than individual site. No such trend is indicated for the low group.

Figure 2(d) suggests a similar trend, with the high group more likely to avoid a mobile crew option (with its greater insularity and adaptability) for its less severely retarded clients, while the low outcomes group tends to use its more mildly handicapped clients in mobile crews. One cannot conclude, therefore, that the poor showing of the low outcomes group in the mobile crews category is because their crews were comprised of clients with greater degrees of disability. The high group in fact had a higher proportion of their mobile crew

clients in the severe and profound category and a lower proportion in the mild category than the low group [chi square(2)=6.72, p=.08].

It was felt that perhaps a good portion of the reason why the high group had higher outcome levels could be explained because they had so many more clients in individual supported employment, and that this in turn could be explained by their having a less severely handicapped supported employment client load. In fact, the proportion of clients in individual supported employment and the proportion of clients who are mildly retarded are only modestly correlated (r=.39, p=.06), and the outcomes variable is not predicted well by either the proportion of mildly retarded clients alone [r=.13, NS] or by the two variables in combination [multiple r=.44, F(2,20)=2.43, p=.11].

In looking at the subcomponents of the outcomes criterion, neither the load nor the guidelines variables were significantly related to either the proportion of clients in individual supported employment or the proportion of mildly retarded clients. The wages criterion correlates strongly with the proportion of clients in individual supported employment [r=.67, p<.0005], but it does not correlate well with the proportion of mildly retarded clients [r=.24, NS]. Nor is the wages variable better predicted by adding the two variables together [multiple r=.67, p<.005]. Therefore the successes of the high outcomes group cannot be completely explained away by the characteristics of the clients served.

Staff Characteristics of High and Low Outcomes Programs

Much of what can be seen in the parts of Table 2 dealing with staff characteristics is not surprising: Those parts of the program that serve more clients also have more staff. The client/staff ratio is remarkably similar between sheltered and supported employment, between high and low outcomes programs, and between individual and group supported employment. When individual and group supported employment are considered separately, there are nonsignificant trends that the staff ratios might diverge in group supported employment, with high outcomes programs tending to lower the ratio for group supported employment and low outcomes programs tending to raise it slightly. In general, though, there is little evidence that staffing ratios are discriminators of program quality.

A number of other staff characteristics were hypothesized to potentially predict the outcomes variable. It was thought that high outcomes programs might have more supported employment staff highly educated in fields which prepared them professionally for supported employment work. The high group's staff might also be better paid or have more on-going training to sharpen their supported employment skills.

As can be seen in Table 3, several of these variables did discriminate between groups. Although many of the program directors commented that experience and attitude were more important considerations in choosing staff than degrees, planned comparisons of staff educational levels showed that a larger proportion of the staff in the high outcomes programs had degrees at the junior college level or higher [$t(104)=3.00$, $p<.005$] and were more likely to have graduate degrees [$t(104)=6.99$, $p<.001$]. There were no differences in the areas of specialization for those with advanced degrees.

The supported employment staff reported, in general, a limited amount of experience working in the supported employment field--less than two years, on the average. The difference in experience between high and low outcomes program staff approached significance [$t(104)=1.86$, $p=.07$). The low amount of supported employment work experience is not altogether surprising, since the programs in the sample had been offering supported employment services fewer than five years on the average. However, it was obvious from the follow-up questions that most of the supported employment staff had not come to the program with a supported employment background; in fact, only 16.7% of the high group staff and 11.1% of the low reported any supported employment experience prior to their present position [$t(106)=0.80$, NS]. The high group staff did have significantly more vocational rehabilitation experience [$t(106)=3.38$, $p<.001$] and experience within educational or child care settings [$t(106)=2.22$, $p<.05$) The category of prior work experience most often mentioned, however, was work within the business or private sector, mentioned by almost 50% of all staff questioned.

The average monthly salary (including benefits) paid to FTE supported employment staff tended to be somewhat higher in the high outcomes programs than in the low, but this difference was not significant [$t(22)=1.60$, $p=.13$]. It is interesting that the low outcomes programs showed some tendency to be spending more for supported employment staff per client than the high [$t(22)=0.78$, NS]. Thus one cannot accuse the low outcomes programs of cutting corners financially on staffing their supported employment programs.

The high outcomes program staff reported a larger number of hours devoted to ongoing training annually, but the difference did not prove significant [$t(86)=1.36$, $p=.18$]. The staff members in the low outcomes programs reported attending more training sessions on-facility [Kruskal-Wallis one-way ANOVA, chi-square=9.31, $p=.05$]; the high outcomes program staff reported more off-facility training sessions attended annually [chi-square=11.92, $p<.05$].

One may ask whether the various staff characteristics in combination would account for a large amount of the difference between high and low outcomes programs and, if so, which staff characteristics are most predictive. Three missing data points

for programs were replaced with that program's group average on that variable so that no programs would be ignored in a stepwise multiple regression. Program size and service type were included in the equation as well as the staff characteristics of education, years of supported employment experience, salary, and on-going training.

The educational level of the staff continued to be the dominating factor. For the composite outcomes criterion, the best predictive pair was combining educational level with years of experience (combined r=.64, $F(2,21)=7.25$, $p<.005$).

Demographic Characteristics of High and Low Outcomes Programs

It was hypothesized that programs operating in rural areas or in areas with high unemployment would have a more difficult time finding jobs in the community for persons with developmental disabilities. Since most supported employment occurs in either the service or manufacturing job market, the proportion of the local job pool working in these occupations was also considered likely to covary systematically with outcomes.

To begin addressing these questions, demographic data for the county in which each program operated was examined. The results, as summarized in Table 4, give no support for the hypotheses. The trend, if there is one, is for high outcomes programs to be operating in less populated areas with higher unemployment rates [$t(22)=1.29$ for both, NS]. To double-check whether very high population areas were unduly influencing the averages, the population density was also examined by categorizing whether the county in which the program operated did or did not contain a Standard Metropolitan Service District. The trend was the same. Nor were large differences apparent in the job market high and low outcomes programs could potentially tap.

One needs to look at the subcomponents of the outcomes criterion rather than the composite in order to make sense of the data. The wages and guidelines variables were both in the hypothesized direction, both for population density [$t=1.89$, $p=.07$ for wages, $t=2.45$, $p<.05$ for guidelines] and for unemployment rate [$t=0.78$, NS for wages, $t=2.32$, $p<.05$ for guidelines]. On the other hand, the load variable ran contrary to the hypothesized direction for both population density [$t=3.26$, $p<.01$] and unemployment rate [$t=2.11$, $p=.06$]. What one finds, therefore, is that indeed greater population density and lower unemployment rate go together with higher wages and more adherence to strict DDD supported employment guidelines, but those same conditions also go with a smaller proportion of a program's total vocational load being in supported employment. The most likely explanation for the latter finding would be that urban areas contain larger multi-service programs, and in fact such proves to be the case: the average vocational load of multi-service programs in urban

areas was 81 clients, while in non-urban areas the average was only 40 [$t(9)=2.88$, $p<.05$]. As seen below, population density continues to be an important variable when considered in combination with other predictors.

Comparing High and Low Outcomes Programs on Combined Set of Program, Client, Staff, and Demographic Characteristics

As a final step in comparing high and low outcomes programs, it makes sense to ask how well the outcomes criteria can be predicted using various combinations of the fourteen variables hypothesized to be related to outcomes (size; service type; population density; unemployment rate; time in supported employment for program, clients, and staff; number of clients in individual supported employment; proportion of clients in individual supported employment; proportion of mildly retarded supported employment clients; client:staff ratios in supported employment; staff salaries, educational level, and on-going training; and growth projections for supported employment services). A stepwise regression was done in which variables among the fourteen which maximally added explanatory power were introduced one at a time. Five missing data points among the 156 were replaced with group averages, in order that all 24 programs would stay in the analysis.

For the composite outcomes criterion, the number of clients in individual supported employment was the most powerful predictor by itself [$r=.58$; $F(1,22)=11.26$, $p<.005$]. By adding population density in next [multiple $r=.76$] and then staff educational level [multiple $r=.83$], over two thirds of the variance in the outcomes measure was being accounted for by just three measures [$F(3,20)=14.24$, $p<.0001$]. Adding size and service type into the equation added only 2% to the variance accounted for. As has been demonstrated, many of the other nine variables do in fact predict the outcomes variable in their own right when considered alone, but their predictive power largely overlaps the variance already accounted for by these three measures. In our sample it is sufficient to ask whether the program has a large individual supported employment program, is located in a high density area, and has a staff with some educational background beyond high school to make a reasonably accurate prediction of whether that program is in the high or the low outcomes group. It should be kept in mind this finding is descriptive; it is not a prescription for how programs can improve their outcomes on these selected criteria.

Since the definition of the outcomes variable used in this analysis is somewhat arbitrary, it is worth asking the same predictive question of the three subcomponents of the outcomes criterion: Which variables best predict high wages for clients, a large proportion of the supported employment clients meeting strict DDD guidelines, or a large proportion of the total vocational load being placed in supported employment?

For wages the best predictor is still the number of clients in individual supported employment [r=.76, F(1,22)=30.53, p<.0001]. Adding in staff educational level and population density, as well as a measure of the total size of the supported employment program, brings the wages variance accounted for up to an impressive 72% [multiple r=.85, F(4,19)=12.36, p<.0001]. Thus, client wages are best predicted by the same set of measures as the composite outcomes criterion.

Predictions of the load variable start out with a similar variable list, although,in this case, density by itself accounts for over half the variance [r=.74; F(1,9)=10.63, p<.01]. Staff education enters the equation next, followed by number of clients in individual supported employment. Together these three variables account for over 80% of the variance on the load variable [r=.90, F(3,7)=9.40, p<.01].

The guidelines variable was the only outcomes subcomponent that showed a different pattern. Amount of ongoing staff training was the best predictor by itself [r=.52, F(1,22)=8.01, p<.01]. After that population density entered the equation, as well as a negative growth factor--programs that anticipated more growth in their supported employment during the coming year were likely to have poorer outcomes. Together these three variables accounted for a little over half the variance [r=.74, F(3,20)=7.86, p<.005]. As has been mentioned several times, the guidelines criterion was the most suspect of the three subcomponents of the outcomes criterion.

Discussion

The separation of the programs studied into high and low groups--and the conclusions drawn based on their differences--was dependent on the particular set of outcomes selected. With a different set of criteria, a different pattern of results may have been obtained. For example, many of the interviewed directors and county coordinators felt there is currently too much emphasis on number of hours worked and wages earned, and not enough emphasis on such features as quality of the integration achieved, scaling of expectations to the ability level of the client, or personal satisfaction. A program which places high emphases on these alternative outcomes criteria may not necessarily be seen as "doing a good job" on the criteria selected for the present study.

It must also be emphasized that the trends evidenced in the data are correlational, not causal. One cannot simply say, for example, "Upgrade the entry level requirements of staff," and expect a program's outcomes to change commensurately. Nor can one say that paying staff well or maintaining ones clients in employment sites for an extended period of time are not contributing factors to program success just because they do not

add significantly to the predictive power of a multiple regression analysis. It simply means these variables are being overshadowed by other variables with which they largely covary. In short, the main variables in the multiple regression analysis not only account well for program outcomes but also for other program variables which covary with outcomes.

For multi-service programs, the size of the vocational program was largely unrelated to outcomes; however, this seemed to be because larger multi-service programs do not necessarily have larger supported employment case loads, and the larger-sized supported employment programs tend to have better outcomes. In particular, programs with high outcomes tend to have a strong individual supported employment emphasis in general, and to shy away from mobile crews in particular. The difference in the size of the supported employment caseloads of high and low outcomes programs is largely because the high group, in addition to serving comparable numbers of moderately and severely disabled clients in supported employment, is placing a larger proportion of their mildly disabled vocational caseload in individual supported employment. However, disability level does not adequately account for the high outcomes of individual supported employment services nor the low outcomes of mobile crews, nor do the proportion of clients in individual supported employment or the proportion of clients who are mildly disabled account for any of the outcomes criteria other than client wages.

Overall, the programs in the sample were making almost 90% of their supported employment placements with mild to moderately disabled clients, and those programs showing higher outcomes were doing so largely by increasing their numbers of mildly disabled placements. In part this is a reflection of the fact that there is a high backlog of clients potentially suitable for supported employment placements, and it makes sense that programs are placing their more competent clients first.

However, if part of the purpose of supported employment is to get increasing numbers of clients in the moderately and severely handicapped range out of the sheltered workshops, at least two changes may be called for. One is for the funding agencies to differentially fund clients dependent on disability level, both to create more incentives to place increasingly disabled clients, and to compensate for the increasing difficulty of getting these clients into work sites and maintaining them there. The other possible change would be for the funding agencies to place less emphasis on wages earned or hours worked as their measure of successful placement, or to at least adjust these expectations dependent on the disability level of the client. A similar argument might be made with regard to programs striving to establish supported employment in rural areas. Achieving high outcomes seems to be more difficult in rural areas, and it may be necessary to offer these programs additional resources to achieve comparable outcomes.

In many ways, the number of variables that did not covary systematically with outcomes is as important as the number that did. It was not possible to significantly distinguish between high and low outcomes programs based on the number of years they had offered supported employment, nor based on how long their staff had been working in supported employment, nor based on how long their clients had been in supported employment settings. Supported employment programs did not seem to have better client:staff ratios than sheltered workshops or to be spending more staffing dollars per client, nor did staff ratios, staff salaries, or staff expenditures per client differ much between high and low outcomes programs. Even the unemployment rate in the county was not a powerful predictor of program success, perhaps indicating that the community's willingness to accommodate disabled workers is somewhat more robust than has been suspected.

It was somewhat of a surprise that staff educational level was a factor which discriminated well between high and low outcomes programs, especially since the area of academic specialization was typically not a direct preparation for supported employment work. When interviewed, program directors generally indicated that, in hiring, they were more interested in personality than in academic credentials, since they felt they needed to personally (or through workshops) train staff members to fulfill their supported employment duties. The higher outcomes group did hire more staff with educational or vocational rehabilitation backgrounds, indicating that perhaps these fields prepare a person for successful supported employment work more than do others.

Two final points deserve to be made. "Models" of supported employment are ill-defined. It is difficult to identify exactly what distinguishes a sheltered workshop from an entrepreneurial business, or when a program is a mobile crew versus an enclave. Perhaps the labels are not all that functional, and less attention needs to be given to settling on one particular model which is a cure-all and more toward clearly identifying the needs of individual clients (and clusters of clients), and tailoring programs of support to get them working at their maximum levels of independence. Similar arguments can be made regarding the distinction between individual and group supported employment. Such distinctions are perhaps currently stressed to the detriment of maximum adaptation of services to client needs.

The other point is that, in order to more clearly specify what it is that distinguishes more successful from less successful practices, it will be necessary to go beyond verbal report and to begin gathering data through on-site, objective observation. Model programs have begun to verify through experimental controls that certain techniques can be used successfully with a wide range of clientele. Observational research could help to verify whether, in broad scale application, the programs that are using those techniques are in fact the ones obtaining better outcomes.

In closing, it must be noted that, considering the funding picture in the state and other salient variables, it is remarkable that all of the programs sample are performing as well as is reported.

REFERENCES

Appell, M. J., Williams, C. M., & Fishell, K. N. (1962). Significant factors in placing mental retardates from a workshop situation. Personnel and Guidance Journal, 41(3), 260-265.

Appell, M. J., Williams, C. M., & Fishell, K. N. (1964-65). Factors in the job holding ability of the mentally retarded. Vocational Guidance Quarterly, 13(2), 127-130.

Bellamy, G. T., Rhodes, L. E., Bourbeau, P. E., & Mank, D. M. (1982). Mental retardation services in sheltered workshops and day activity programs: consumer outcomes and policy alternatives. Eugene, OR: Specialized Training Program, College of Education, University of Oregon.

Bellamy, G. T., Rhodes, L. E., Mank, D. M., & Albin, J. M. (Eds.). (1988). Supported Employment: A community implementation guide. Baltimore, MD: Paul H. Brookes.

Brickey, M., Browning, L., & Campbell, K.. (1982). Vocational histories of sheltered workshop employees placed in Projects With Industry and competitive jobs. Mental Retardation, 20(2), 52-57.

Brickey, M., & Campbell, K. (1981) Fast food employment for moderately and mildly mentally retarded adults: The McDonald's Project. Mental Retardation, 19(3), 113-116.

Brown, L., Shiraga, B., York, J., Kessler, K., Strohm, B., Rogan, P., Sweet, M., Zanella, K., VanDeventer, P., & Loomis, R. (1984). Integrated work opportunities for adults with severe handicaps: the extended training option. JASH, 9(4), 262-269.

Everson, J. M., & Moon, M. S. (1987). Transition services for young adults with severe disabilities: Defining professional and parental roles and responsibilities. JASH, 12(2), 87-95.

Ford, L., Dineen, J., & Hall, J. (1984). Is there life after placement? Education and Training of the Mentally Retarded, 19(4), 291-296.

Greenspan, S., & Shoultz, B. (1981). Why mentally retarded adults lose their jobs: Social competence as a factor in work adjustment. Applied Research in Mental Retardation, 2(1), 23-38.

Hasazi, S. B., Gordon, L. R., Roe, C. A., Finck, K., Hull, M., & Salembier, G. (1985). A statewide follow-up on post high school employment and residential status of students labeled, "mentally retarded." Education and Training of the Mentally Retarded, 20(4), 222-234.

Hawkins, J. A., Jr. (1984). Follow up study of special education graduates class of 1983. Rockville, MD: Montgomery County Public Schools, Dept. of Educational Accountability. (ERIC Documentation Reproduction Service No. ED 256 786)

Hill, M., & Wehman, P. (1983). Cost benefit analysis of placing moderately and severely handicapped individuals into competitive employment. JASH, 8(1), 30-38.

Hill, M. L., Wehman, P. H., Kregel, J., Banks, P. D., & Metzler, H. M. D. (1987). Employment outcomes for people with moderate and severe disabilities: An eight-year longitudinal analysis of supported competitive employment. JASH, 12(3), 182-189.

Jacobs, J. W. (1978). Gleaning: Sheltered employment for retarded adults in rural areas. Mental Retardation, 16(2), 118-122.

Kiernan, W. E., & Stark, J. A. (1986). Employment options for adults with developmental disabilities. Remedial and special education, 7(6), 7-11.

Lam, C. S. (1986). Comparison of sheltered and supported work programs: A pilot study. Rehabilitation counseling bulletin, 30(2), 66-82.

Mank, D. M., Rhodes, L. E., & Bellamy, G. T. (1986). Four supported employment alternatives. In W. E. Kiernan & J. A. Stark (Eds.), Pathways to Employment for Adults with Developmental Disabilities (pp. 139-153). Baltimore, MD: Paul H. Brookes.

Mcloughlin, C. S., Garner, J. B., & Callahan, M. (Eds.). (1987). Getting employed, staying employed. Baltimore, MD: Paul H. Brookes.

Minton, E. B. (1977). Job placement: Strategies and techniques. Rehabilitation Counseling Bulletin, 21(2), 141-149.

Mithaug, D. E. (1979). Negative employer attitudes toward hiring the handicapped: fact or fiction? Journal of Contemporary Business, 8(4), 19-26.

Mithaug, D. E., Hagmeier, L. D., & Haring, N. G. (1977). The relationship between training activities and job placement in vocational education of the severely and profoundly handicapped. AAESPH Review, 2, 89-109.

Noble, J. H., Jr., & Conley, R. W. (1987). Accumulating evidence on the benefits and costs of supported and transitional employment for persons with severe disabilities. JASH, 12(3), 163-174.

Payne, J. S., & Chaffin, J.D. (1968). Developing employer relations in a work study program for the educable mentally retarded. Education and the Training of the Mentally Retarded, 3(3), 127-133.

Rhodes, L., Ramsing, K., & Hill, M. (1987). Economic evaluation of employment services: A review of applications. JASH, 12(3), 175-181.

Rhodes, L. E., & Valenta, L. (1985). Industry-based supported employment: An enclave approach. JASH, 10(1), 12-20.

Rusch, F. R., & Schutz, R. P. (1979). Non-sheltered competitive employment of the mentally retarded adult: Research to reality? Journal of Contemporary Business, 8(4), 85-98.

Salamone, P. R. (1971). A client-centered approach to job placement. Vocational Guidance Quarterly, 19(4), 266-270.

State of Washington Data Book. (1987). Office of Financial Management. Olympia, WA.

Tarr, R. F., & Lewis, J. P. (1977). 1974-76 Follow-up of the physically handicapped in Pennsylvania. University Park, PA: Pennsylvania State University, Institute for Research on Human Resources. (ERIC Document Reproduction Service No. ED 149 165)

Wehman, P., Hill, M., Goodall, P., Cleveland, P., Brooke, V., & Pentecost, J. H., Jr. (1982). Job placement and follow-up of moderately and severely handicapped individuals after three years. JASH, 7, 5-16.

Wehman, P., Hill, J. W., & Koehler, F. (1979). Helping severely handicapped persons enter competitive employment. AAESPH Review, 4(3), 274-290.

Wehman, P., & Kregel, J. (1985). A supported work approach to competitive employment of individuals with moderate and severe handicaps. JASH, 10(1), 3-11.

Wehman, P., Kregel, J. & Seyfarth, J. (1985). Transition from school to work for individuals with severe handicaps: A follow-up study. JASH, 10(3), 132-136.

Williams, R., & Stowitschek, J. (1988). Washington job development strategies study. In Five transition policy studies (pp. 58-84). Seattle, WA: University of Washington, College of Education, Transition Research on Problems of Handicapped Youth.

APPENDIX A

SPONTANEOUS AND SOLICITED OPINIONS OF 24 SUPPORTED EMPLOYMENT PROGRAM DIRECTORS AS A FUNCTION OF LEVEL OF OUTCOMES

Question: "For what percentage of the (mild to moderately) (severely) handicapped population is supported employment a viable vocational alternative? What proportion can, with reasonable levels of support, advance beyond their initial job placements? What proportion can eventually advance to unsupported, competitive employment?"

Employment level possible	Outcome level	DISABILITY LEVEL	
		Mild/moderate	Severe
% can be served by SE			
	High group	87.1	62.9
	Low group	76.0	44.8
% can advance within SE			
	High group	62.5	34.5
	Low group	42.1	12.7
% can achieve unsupported competitive employment			
	High group	20.8	4.9
	Low group	33.1	8.0
% of developmentally disabled need SE indefinitely (Quest.#1 - Quest.#3)		*	
	High group	66.3	58.0
	Low group	43.0	36.8

* $p < .05$.

Question: "How would you allocate more resources if they were made available to you?" (seven-point rating scale: 1 = "needs no more resources"; 7 = "needs great deal more resources").

Resource Category	Outcome level	Rating	Rank
More SE for severely dis.			
	High group	6.3[a]	1
	Low group	4.9	3
Staff training			
	High group	4.9	2
	Low group	5.0	2
Job development			
	High group	4.7	3.5
	Low group	4.8	4.5
Client on-job training			
	High group	4.7	3.5
	Low group	4.8	4.5
Comm. & bus. ed./networking			
	High group	4.6	5
	Low group	5.7[b]	1
Client on-job maintenance			
	High group	3.8	6
	Low group	4.3	6
Admin./staff supervision			
	High group	3.6	7
	Low group	3.6	8
Client pre-placement training			
	High group	3.3	8
	Low group	3.8	7
Average			
	High group	4.5	
	Low group	4.6	

[a] $p = .05$. [b] $p = .06$.

Question: "What factors make supported employment preferable to sheltered employment for the developmentally disabled?"

Response Category	Outcome level	NUMBER OF RESPONSES[a] Mentioned	Agreed
Integration			
	High group	12	12
	Low group	8	12
Normal life & work exp.			
	High group	8	12
	Low group	10	11
Self-esteem			
	High group	6	12
	Low group	7	12
Wages			
	High group	5	12
	Low group	6	10
Impact on fam./comm.			
	High group	2	12
	Low group	6[b]	11
Better staff:client ratio			
	High group	1	10
	Low group	1	8
More individualizable prog.			
	High group	0	11
	Low group	1	11
Better equipment			
	High group	0	6
	Low group	0	7

[a] n = 12 for each group.

[b] p = .09.

Question: "What are some of the problems programs have encountered providing supported employment for the developmentally disabled?"

Response Category	Outcome level	NUMBER OF RESPONSES[a] Mentioned	Agreed
Money			
	High group	8	9
	Low group	5	11
Marketing			
	High group	8	12
	Low group	9	10
Educating fam. & comm.			
	High group	7	12
	Low group	9	11
Finding quality staff			
	High group	4	10
	Low group	2	10
Transportation			
	High group	3	11
	Low group	5	12
Means of serving severe DD			
	High group	3	7
	Low group	1	9
Behavior problems			
	High group	2	9
	Low group	4	11
Funding agencies			
	High group	2	8
	Low group	2	7
Trainers knowing job			
	High group	1	4
	Low group	0	5
Training methods			
	High group	1	7
	Low group	0	5
SE must be run in business-like fashion			
	High group	0	7
	Low group	3[b]	6
Monitoring client progress			
	High group	0	6
	Low group	1	7
Client resistance to SE			
	High group	0	4
	Low group	2[b]	8

[a] $n = 12$ for each group. [b] $p = .08$. [c] $p = .11$.

Question: "What are some of the problems supported employment staff face which on-facility employment staff do not?"

Response Category	Outcome level	NUMBER OF RESPONSES[a] Mentioned	Agreed
Great versatility of skills needed			
	High group	8	10
	Low group	6	8
Staff isolation			
	High group	5	11
	Low group	7	8
Travel requirements			
	High group	3	8
	Low group	2	5
Behavior problems more difficult in the comm.			
	High group	3	11
	Low group	3	10
Comm. Resistance			
	High group	3	8
	Low group	2	9
Bad hours			
	High group	1	8
	Low group	2	6
Backups			
	High group	1	6
	Low group	3	9
Raiding by industry			
	High group	0	6
	Low group	0	7

[a] $n = 12$ for each group.

Question: "What changes, if any, would you like to see, either within your program or in the support your program receives from outside sources, that could help you do a more effective job of providing supported employment? Which of these categories would most improve your ability to do supported employment?"

Response Category	Outcome level	NUMBER OF RESPONSES[a] Rated most important	Mentioned	Agreed
Money				
	High group	7	9	10
	Low group	5	8	10
DDD/DVR, state/county cooperation				
			*	[b]
	High group	1	6	11
	Low group	1	1	7
Ed. of bus. & fam.				
	High group	1	5	12
	Low group	2	5	12
Serve more severely dis.				
			*	
	High group	0	5	9
	Low group	0	0	7
Flex. in funding regs.				
	High group	0	4	8
	Low group	1	5	9
More staff training				
	High group	0	3	10
	Low group	0	2	10
Try new types of SE				
	High group	1	2	7
				[b]
	Low group	0	3	11
Cent. job dev. resource				
	High group	0	1	5
				[c]
	Low group	0	0	9
On-site tech. assist.				
	High group	0	1	12
	Low group	1	2	11
Program reorg.				
	High group	0	0	1
	Low group	0	2	2
Budgeting help				
	High group	0	0	2
	Low group	0	0	5
Other responses				
	High group	2	-	-
	Low group	2	-	-

[a] $n = 12$ for each group. [b] $p = .07$. [c] $p = .11$.

*

TABLE 1

MEANS OF HIGH VERSUS LOW OUTCOMES SUPPORTED EMPLOYMENT PROGRAMS ON THREE COMPONENT OUTCOMES CRITERIA AS A FUNCTION OF WHETHER SUMMARY INFORMATION WAS FROM DEPARTMENT OF DEVELOPMENTAL DISABILITIES (DDD) OR PROGRAM DIRECTORS

		Summary Source	
Criterion	Outcome level	DDD	Directors
Client monthly wages (in dollars)[a]			
	High group	373.*	355.*
	Low group	99.	135.
Meeting strict supported employment guidelines (percent of clients)[a]			
	High group	62.7*	77.6
	Low group	8.7	55.9
Vocational load in supported employment (percent)[b]			
	High group	48.7*	48.3*
	Low group	16.3	15.8

[a] $n = 12$ for each group. [b] $n = 5$ for High group, 6 for Low.

*$p < .05$.

TABLE 2

MEANS OF PROGRAM, CLIENT, AND STAFF CHARACTERISTICS OF 24 VOCATIONAL PROGRAMS FOR PERSONS WITH DEVELOPMENTAL DISABILITIES AS A FUNCTION OF TYPE OF VOCATIONAL PLACEMENT AND PROGRAM LEVEL OF OUTCOMES

		FACILITY		CLIENTS				STAFF	
Placement type	Outcome level	Yrs offer	# still offer	# SE cli	% of SE	Yrs in SE	% mildly retard.[a]	# stf	Cli: stf ratio
Sheltered									
	High[b]	14.1	5	28.6	----	---	18.1	5.5	5.9
	Low	12.0	6	47.9	----	---	15.9	9.3	6.0
Supported									
	High	5.2	12	24.1	----	2.3	54.3	6.3	5.8
	Low	4.6	12	11.8	----	2.2	46.7	2.7	5.9
Ind. SE									
	High	3.4*	10*	13.2*	65.0*	2.0*	71.7	2.7*	5.7
	Low	.5	4	1.4	26.8	1.1	41.7	.4	5.3
Gp. SE									
	High	2.7	6	10.9	35.0	2.6	19.1*	3.6	3.2
	Low	4.1	9	10.3	73.2*	2.3	44.5*	2.4	6.2
Enclave									
	High	1.1	3	3.3	7.9	1.4*	25.9	.6	4.3
	Low	.5	1	4.5	8.3	2.4*	26.5	.6	7.7
Ent. bus.									
	High	1.4	3	2.7	13.5	2.9*	----[c]	.7	4.4
	Low	.8	2	1.4	16.7	1.1	----	.6	2.5
Mobile crew									
	High	1.7	4	4.9	13.6*	3.3	12.2*	2.2	2.2
	Low	3.1	7	4.4	48.3*	2.6	45.2*	1.2	6.4

[a] Percent excludes clients not categorized on DDD files.
[b] Total time program has offered any services, vocational or other.
[c] Merged with enclave category.

*$p < .05$.

TABLE 3

MEANS OF SUPPORTED EMPLOYMENT STAFF CHARACTERISTICS AS A FUNCTION OF PROGRAM LEVEL OF OUTCOMES

Characteristic	OUTCOME LEVEL: High group[a]	OUTCOME LEVEL: Low group[b]
Highest level of educational degree (%):		
High school	36.1	55.6*
Jr. College/Special degree	26.4	19.4
Four-year college	31.9	25.0
Graduate school	5.6*	0.0
Experience in SE (yrs):	2.0	1.5
Prior work exp. mentioned in (%):		
Supported employment	16.7	11.1
General employment services	13.9	11.1
Vocational rehabilitation	27.8*	5.6
Residential support services	16.7	19.4
Education/child care	27.8*	11.1
Business/private sector	41.7	58.3
FTE staff monthly salary, including benefits ($):	1565.	1187.
Staffing monthly expenditures per supported employment client ($):	328.	410.
Ongoing staff training (hrs annually)	42.7	28.7

[a] $n = 72$. [b] $n = 36$.

*$p < .05$.

TABLE 4

MEANS OF DEMOGRAPHIC CHARACTERISTICS OF COUNTIES IN WHICH 24 SUPPORTED EMPLOYMENT PROGRAMS OPERATE AS A FUNCTION OF PROGRAM LEVEL OF OUTCOMES

Characteristic	OUTCOME LEVEL[a]	
	High group	Low group
Unemployment rate (%)	9.9	8.1
Population density (persons/sq. mi.)	191.	319.
Counties include a Standard Met. Statistical District (%)	50.0	66.7
Job force in manufacturing or service occupations (%)	34.6	32.2

[a] $n = 12$ for each group.

*$p < .05$.

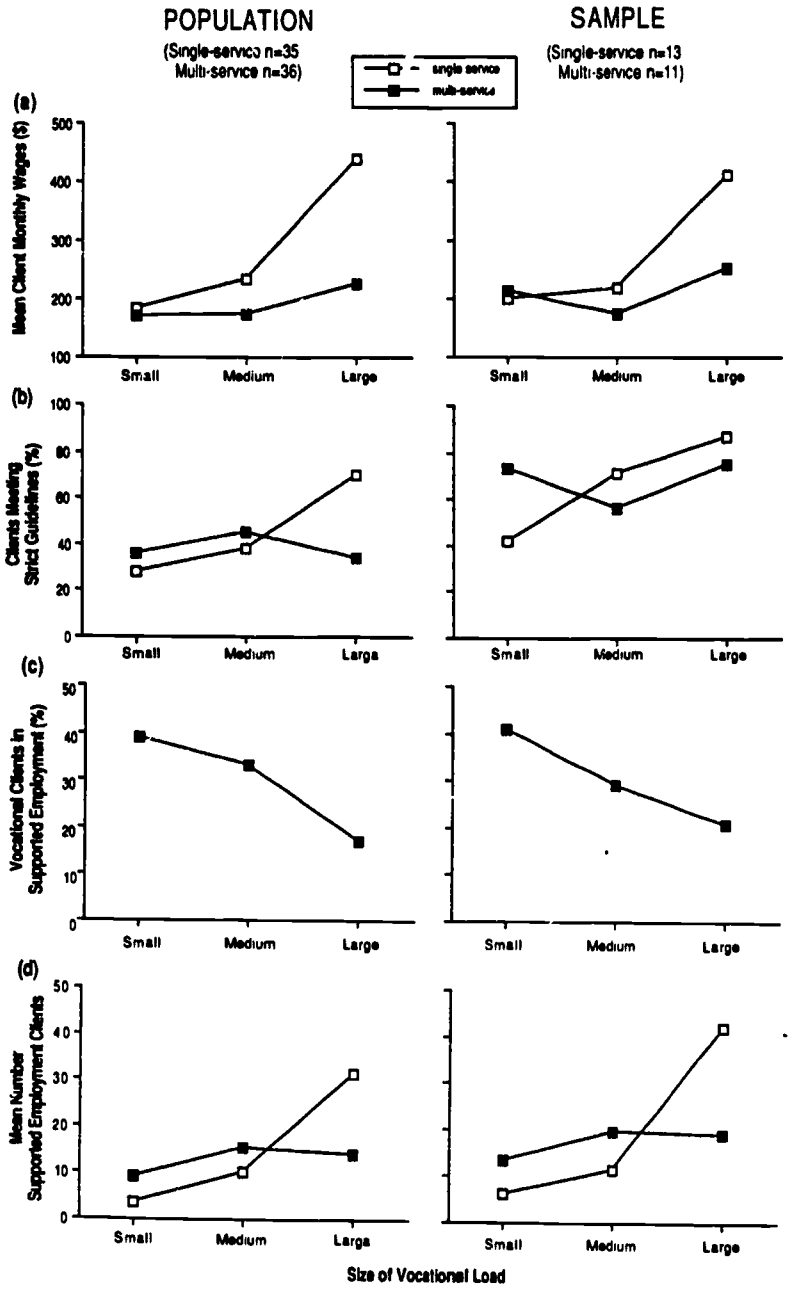

FIGURE 1.

Means of population (N=71) and sample (n=24) of Washington supported employment programs on separate program outcome criteria as a function of vocational program size and range of vocational services.

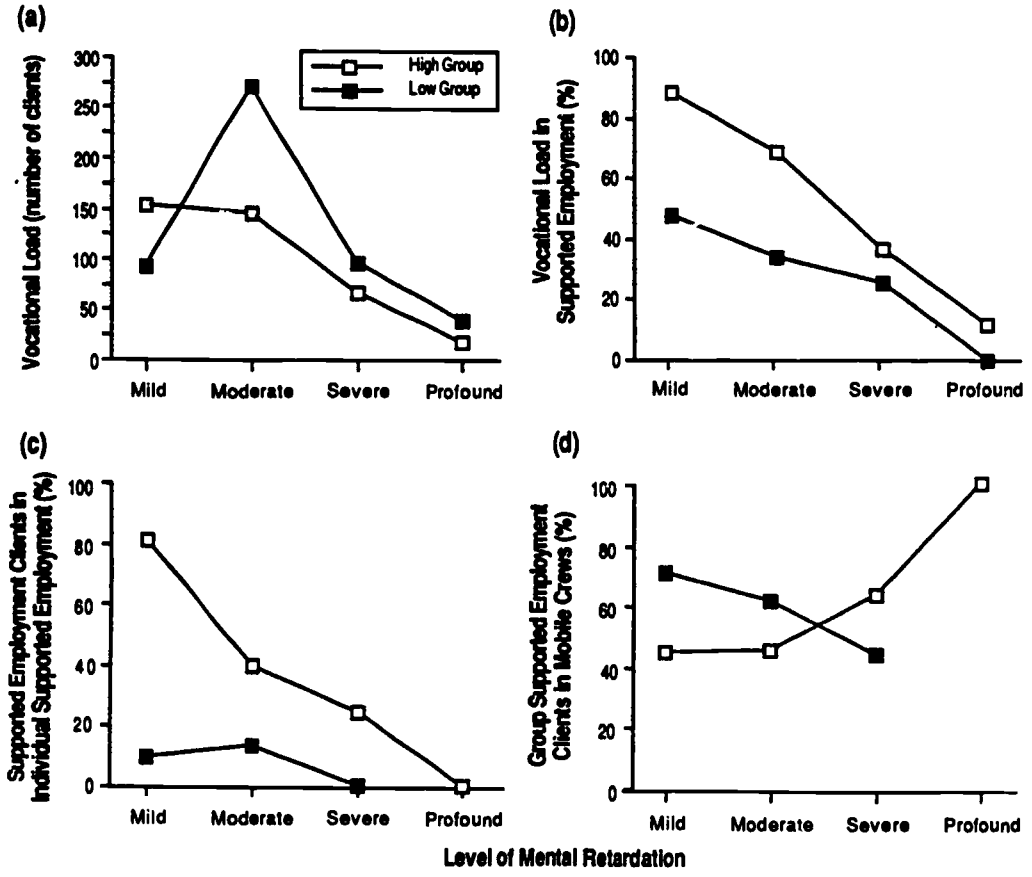

FIGURE 2.

Means of 24 supported employment programs on distribution of clients in subtypes of vocational placement as a function of client level of mental retardation and program level of outcomes.

SALIENT FEATURES DISTINGUISHING HIGHLY ACTIVE FROM MINIMALLY ACTIVE EARLY WORK EXPERIENCE PROGRAMS FOR MILDLY HANDICAPPED YOUTH

by

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Abstract

Using the data gathered in a previous study as a base, the investigators established criterion levels for school districts in Washington which could be considered highly involved versus minimally involved in work experience programs. Thirty school districts were identified--15 highly active and fifteen minimally active. Following identification, the investigators conducted the study in two phases. The first phase, reported here, focused on telephone interviews with one administrator from each of the thirty districts, while the second phase involved interviews with one teacher in each district. Both the teacher and administrator interview protocols were designed to examine a range of organizational issues, including staffing and curriculum areas. In addition, the administrator questionnaire was designed to probe those conditions which might hinder establishment of a successful work experience program within a school district and to examine whether any differences might be noted in approaches to problem solving in the high and low districts. The results of phase one of the study are presented in this paper. The two groups of districts differed across some important dimensions. The differences noted provide a focus to direct further study of transition program improvement.

Recognizable gains in the development of transition programming for handicapped youth have been made, particularly as a result of joint federal initiatives in special education, rehabilitation and developmental disabilities. These gains are most pronounced in those populations considered to be moderately to severely disabled because the emphasis has been placed on these groups (Black, 1976; Will, 1985). Although transition planning is stressed for students representing the entire spectrum of handicapping conditions, there are concerns that the vocational needs of mildly handicapped secondary students are not being adequately addressed (Edgar, 1987; Knowlton & Clark, 1987; Maddox & Edgar, 1984).

Estimates of the number of unemployed and underemployed mildly handicapped adults range as high as 61% (Hasazi, Gordon, & Roe, 1985). Those jobs which adults with mild handicaps do manage to find tend to be primarily entry-level service jobs, where considerable turnover takes place (Weatherman, Stevens, & Krantz, 1986). In one study (Mithaug, Horiuchi, & Fanning, 1985), individuals held an average of 3.1 jobs in the three to

four years since graduation. Further, those reviewing studies of handicapped graduates note that the wages these adults receive are generally low, with many at the minimum wage level (Mithaug, Horiuchi, Chiyo, & McNulty, 1987; Weatherman, Stevens, & Krantz, 1986). Edgar, Levine, and Maddox's (1987) recent follow-up report suggests that although up to 80% of individuals with learning disabilities are employed,less than 25% receive the minimum wage.

One major criterion against which to gage the success of transition programs in secondary schools is the employment status of those who either complete or otherwise leave those programs. In view of the discouraging statistics, Edgar (1987) concludes, "the secondary curriculum for special education students appears to have very little, if any impact on their eventual adjustment to community life" (p. 560). The general lack of overall success on the part of many secondary programs to prepare students for the work world has been clearly demonstrated. It is not clear, however, what changes in such programs might increase the likelihood of future success.

Despite the documented need for local schools to determine what happens to former special education program students, there is neither an extensive nor a reliable source of data yet established for any given state. Edgar, Levine, and Maddox (1987) have made remarkable progress in establishing a state-wide follow up system and data base in Washington. Yet only 15 of the 190 school districts containing high schools have adopted a standard follow-up evaluation program. In the absence of a uniform data base which will allow the study of successful graduates and the identification of secondary school program components which contributes to their success, one must seek out other indicators of eventual employment status. At this time, given the status of the research, the strongest indicator emerging in the literature is early work experience available to the student during secondary school years.

Even though the framework for engaging in work-related behaviors during high school (e.g., work study, work experience, cooperative education, credit for part-time employment) has been in place for a long time, many mildly handicapped youth and young adults who are former students remain unemployed (Malouf, 1982). While some have questioned the results of early work experience programs (Farding, Algozzine, Schwartz, Henzel, & Westling, 1985; Gilbert, 1975; Horn, O'Donnell & Vitulano, 1978; Wilburn, 1975), strong support exists in the literature for providing early work experience. This support is found in numerous follow-up studies of handicapped graduates (Brolin, Durand, Koones, & Muller, 1975; Halpern, 1973; Hasazi, Gordon, & Roe, 1985; Hasazi, Gordon, Roe, Hull, Finck, & Salembier, 1985; Margalit & Schuchman, 1978; Mithaug & Horiuchi, 1983; Mithaug, Horiuchi, & Fanning, 1985; Mock, 1974; Strickland & Arrel, 1967; Wehman, Kregel, & Seyfarth, 1985). These studies document the importance of providing work

experience, paid or unpaid, collaterally with a student's course of study.

While follow-up studies highlight the importance of early work experience, these studies do not allow for more precise analysis of the secondary programs from which the adults graduated. An attempt by the authors to locate data describing programmatic details of curriculum and staffing for high school programs placing a clear emphasis upon early work experiences had limited results. In addition, a search directed at finding data regarding the numbers of mildly handicapped students who are currently involved in work experiences while in high school provided little information. Investigators examining high school programs available to persons with handicaps (Cox, Frank, Hocutt, & Kuligowski, 1984; Halpern & Benz, 1986) offer limited insight of the salient features of programs which can be considered successful in providing work experience to their students. Nevertheless, improvement of instructional efforts in this area would seem to demand a focus upon salient features, differentiating those programs which place an emphasis on early work experiences from those which provide minimal opportunities.

A study by Stowitschek (1987) offered some direction for this endeavor. A major feature of this study was its effort to determine the extent to which mildly handicapped youth in Washington were involved in work experiences during high school. The study also focused on the perceptions of special education directors and principals regarding student and teacher involvement in work experience programs. In the examination of administrator perceptions, some conditions were identified which tend to hinder the development of early work experience programs. The present study established criteria upon which to identify and divide thirty school districts in Washington into high activity or low activity programs based on the extent to which mildly handicapped secondary students were participating in paid or unpaid work experiences. The purposes of the ensuing research were to identify differences that exist in organizational structures and to examine distinguishing problem solving processes which respond to obstacles presented in developing early work experiences for a mildly handicapped population.

Method

Subjects

Prior to the initiation of the sampling procedure, the Washington Education Directory (1987-88) was used to identify those school districts in the state which had at least one high school. One hundred ninety districts were identified which met this criterion. In an effort to achieve a balanced representation of these high schools in the sample, districts were further analyzed to determine the size of their largest

(typically, their only) high school. Districts were then grouped as follows: small (0-200 students, 26% of Washington's high schools); medium (201-999, 50%); and large (1000+, 24%). After designating districts by these three categories, the investigators proceeded to randomly select the participating districts on a stratified basis. After each random selection, the special education director from that district was called and asked three questions about the district's mildly handicapped population: (a) the number of mildly handicapped students, including those with mild mental retardation, learning disabilities, and behavioral disorders; (b) the number involved in school sponsored employment; and (c) the number involved in student initiated employment. Phone calls were placed on a randomized selection basis until the desired number of districts for each major category of high school population size was reached, with each district agreeing to participate in the research. Thirty districts across Washington were selected for the study (see Table 1). Fifteen were placed in the high work experience rate or high group (25% or more students in school-sponsored employment/work activity or 50% or more in student-initiated jobs) while another fifteen were in the low work experience rate or low group (10% or less in both school-sponsored and student-initiated employment/work activity). Classes such as shop or horticulture, or in vocational skill centers were excluded from the work experience categories but job-like experiences, such as work in the school cafeteria were included.

School district selection was not finalized until it was assured that equal numbers of rural and urban/suburban districts were represented in the high and low categories. Following selection of the participating districts, subjects for the study were contacted and telephone interviews were arranged.

Instrumentation

The administrator interview was developed with the intent to examine some of the obstacles to early work experience suggested in earlier work (Stowitschek, 1987). Literature on school-to-work transition (Wehman, Moon, Everson, Wood, & Barcus, 1988) was also used to direct the development of the interview protocols. Wehman et al. (1988) point out that several model training programs across the country have dealt with problems that school districts encounter regarding work experience programs. Their summary of some of the solutions found in major model program further enhanced the base upon which administrative approaches to work experience program obstacles were examined. The investigators were interested in determining whether the solutions suggested by model programs could provide an important means of differentiating the high and low districts.

Categories of obstacles and solutions which the administrator's interview was designed to examine included: (a) staffing for work experience programs; (b) scheduling of students; (c)

transportation; (d) liability and safety; (e) funding; (f) interagency involvement; (g) state regulations; and (h) community involvement. The interview also included questions concerning equality of the handicapped student's access to work experience programs as it might compare with the nonhandicapped in the district and explored details regarding specific staffing issues such as numbers and types of staff available for work experience programs and specific arrangements that had been attempted to make teacher release time possible. The district's involvement in transition planning was a final area of concern.

Procedure

Criterion levels for Washington's school districts were established which differentiated highly active and minimally active districts in work experience programs. Those school districts which had been most active in providing work experiences had 25% or more of their mildly handicapped students in school-sponsored employment, while the least active reported fewer than 10% in school-sponsored work experiences (Stowitschek, 1987). Student-initiated employment was similar, regardless of the school district's level of involvement.

Special education administrators participated in the first phase of the study, while designated teachers participated in a second phase. Although some procedures of both phases are described, for purposes of brevity, this report isfocused on the first phase. Administrators were identified as those given direct responsibility for the special education program within the district. In small districts, the superintendent was the individual who had direct administrative authority with no intermediate levels of supervisory assistance. In the middle and large size districts, the individual who served as administrator most often held the special services director or special programs director position or was given the title of special education director.

A pilot study using the telephone interview protocol developed for administrators was conducted with five individuals who were identified as having extensive experience in special education programs across the State. Each pilot participant was encouraged to provide feedback concerning the content validity of the items presented and the clarity of their presentation.

Following the pilot study, some new problem areas and solution options were added to the interview. These areas had been considered by participants in the pilot study as important for inclusion. Otherwise, few revisions were necessary. Clarity was essential, as the interview was presented by telephone. Administration of the interview required approximately one hour, either in one time period or in two 30 minute periods. All participants chose the one time period option. Upon completion of the pilot study, each administrator who had been selected for the study was contacted.

Results

Results are presented in five parts:

1. High and low groups are described in terms of basic student and staff load characteristics, which are examined to determine whether the thirty districts are actually separate in terms of the early work experiences they offer mildly handicapped students.

2. Staff utilization is considered in terms of district commitment and time allocation to work experience programs.

3. Differences between districts in equal access to early work experience for mildly handicapped students were examined.

4. Basic issues pertaining to transition programming were analyzed to determine salient features distinguishing districts in early work experience involvement.

5. Administrative problem-solving in areas identified in the literature and in the pilot study to be common obstacles to the establishment of effective work experience programs were examined.

Demographic Data

An initial question was whether the two groups of districts identified by the pre-established criterion in fact differed significantly in school sponsored employment. A statistically significant difference ($t = 2.45$, $p<.02$) exists between high ($M = 18.60$) and low ($M = 5.13$) districts in school sponsored employment for mildly handicapped students (see Table 2). Because the sample included one large metropolitan school district (low group), analyses were performed to determine its contribution to the results. The difference remains statistically significant ($t = 4.49$, $p<.001$) when the largest district is excluded from the low districts ($M = 1.21$). Two other areas of demographic data do not show the groups to be significantly different: (a) the difference in mildly handicapped students for high ($M = 47.80$) and low districts is not statistically significant whether or not the low districts include ($M = 106.40$) or exclude ($M = 43.14$) the largest district; the difference in students in self-initiated jobs, in the high districts ($M = 7.00$) and in the low ($M = 5.64$) districts, was not statistically significant. (In this instance, the largest district was not included in the data set because it had no way of gathering reliable information on self-initiated employment. In summary, the participating districts were similar in the enrollment of mildly handicapped secondary students and the number of students with self-initiated employment. However, they

were found to differ significantly on the criterion variable of school-sponsored work experience.

Staff Utilization

With all districts included in the data, the high and low districts were not found to be significantly different in terms of total FTE (full time equivalent) teachers and aides for handicapped students. Nor were they found to be significantly different in total FTE teachers and aides working only with mildly handicapped students. (See Table 3.)

Although the means change when the largest district is excluded from the data, the difference remains nonsignificant. While total FTE for teachers and aides was not found to differ significantly, the way in which the staff was used did differ. The high group (93.33%) was significantly different (t = 8.82, $p<.001$) from the low group (13.33%) in its efforts to assign staff specifically to the area of work experience. Further, the high group (93.33%) had significantly more (t = 7.10, $p<.001$) release time for site visits than the low group (13.33%).

The high group (80.00%) was also significantly (t = 7.42, $p<.001$) more likely to designate a coordinator for work experience programs than the low group (6.70%), and the number of years high districts (M = 8.40) and low districts (M = 2.13) had been involved in making staff assignments in work experience was significantly different (t=2.58, $p<.015$).

Student Access to Early Work Experience Programs

Table 4 summarizes the administrators' responses concerning access. While 60% of the low districts (0% of the high) noted that everyone had limited access, 80% of the high districts (0% of the low) pointed out that their mildly handicapped students had more than equal access, that is, they had more opportunities for work experience than their nonhandicapped peers. The nonhandicapped in the high districts did not have significantly more opportunity than the low districts for work experience within the districts (high group = 7.6%, low group = 7.7%) or in the community (high group = 8.9%, low group = 5.6%).

Transition Programming

As shown in Table 5, transition considerations begin at a specific age which 100.0% of the high districts identified, but which only 46.7% of the low districts identified (t = 4.0, $p<.001$); and the family is brought into transitional considerations by the time a mildly handicapped student reaches a designated age in 100.0% of the high districts, but only 40.0% of the low districts (t = 4.58, $p<.001$). The districts can be further distinguished by the fact that 66.7% of the high districts but only 20.0% of the low districts hold transition planning meetings, 80.0 % of the high districts but only 20.0% of

the low districts have specific vocational goals and objectives , and 60.0% of the high districts but only 20.0% of the low districts use consultants for technical assistance.

Resolution of Work Experience Program Obstacles

Administrative problem-solving was examined in terms of eight categories identified as common obstacles to creating an effective early work experience program. (See Tables 6 and 7.) High and low districts cannot be distinguished in terms of problem recognition for each of the major obstacle categories, with the exception of funding. For most categories, administrators in both groups stated they felt the areas presented problems to them. In the case of funding, however, the low group (73.3%) found this a significantly greater obstacle than the high group (20.0%).

While few differences existed between groups in recognition of obstacle areas, substantial differences existed when administrators were asked whether they had explored options to solve the problems they had been discussing. In all but one case across the eight obstacle categories (Tables 6 and 7) administrators of the high groups reported they had considered options and/or had taken action to deal with the problems with a higher frequency than those in the low group.

Discussion

The study focused on administrators in thirty school districts across Washington, 15 of which reported high percentages of mildly handicapped secondary students participating in early work experiences and 15 of which reported low percentages in such experiences. Demographic data gathered for the two groups confirmed that the groups were significantly different in terms of school-sponsored employment for the mildly handicapped. In an attempt to identify salient features which might distinguish the two groups, the investigators focused their examination on four separate areas: (a) staff utilization; (b) student access to early work experience; (c) transition programming; and (d) resolution of common work experience obstacles.

Staff Utilization

While the two groups were significantly different in terms of the school-sponsored employment opportunities they offered their mildly handicapped populations, they were not found to differ significantly either in the total number of mildly handicapped they served or in the total number of staff they had hired to work with these students. Significant differences were found in the ways in which staff responsibilities were delegated in these two groups. Not only do the majority (93.3%) of administrators in high districts delegate staff and provide release time for

them to be involved in work experience programs, they also designate one individual to serve as coordinator for the programs. The coordinator, in most cases, is one of the teachers assigned to the program.

Halpern and Benz (1986) found that when teachers were given the option of indicating changes that could improve student vocational opportunities, almost half indicated the need for a clearly identified staff person to assume responsibility for coordination; however, they warned that the mere identification of an individual to assume this role does not guarantee effective communication and collaboration. In the findings here, the identification of an individual to assume this role appears to carry with it some of the necessary prerequisite responsibilities for helping mobilize an effective program. When administrators were asked to name one individual who had most influenced or could be of greatest influence in early work experience programming efforts, a large proportion of the administrators in the high districts named their coordinators. Generally, the administrators added several favorable comments about the value of these individuals in shaping the existing programs.

While Stowitschek (1987) identified administrative concerns about the ways in which staff could obtain release time, in this study, two options were found which significantly differentiated the high from the low groups. Repeatedly, high group administrators pointed out that they made do with the available staff: they did not have the luxury of hiring extra staff on any basis (e.g., on part time or by offering extra pay for extra work). The options identified were: (a) having staff use their planning time for supervision purposes or (b) working with the schedules of one or more staff to make release time possible for one individual. In some cases, this meant that other staff members agreed to slight increases in their teaching loads to allow one individual to leave the school; rescheduling might also involve juggling periods so that a planning period and a lunch hour occurred consecutively, allowing an individual to leave the building for a block of time.

Student Access to Early Work Experience

Cox et al. (1984) reported that cuts in federal funding for vocational assistance (e.g., CETA/JTPA) severely affected students who would have liked to participate in early work experience programs, particularly the handicapped, since vocational programs had become more competitive and "success" oriented and since reductions in program staff resulted in fewer work/study openings for both handicapped and non-handicapped. Another factor contributing to reductions in student participation in work/study programs at that time was that fewer funds were available to subsidize salaries for students.

Results from the current study indicate that in the high districts, access to work experience was not only equal but that

the mildly handicapped actually had more opportunity to be involved in early work experience programs than their nonhandicapped peers. Early work experience enrollment data for both handicapped and nonhandicapped students collected during phase two of the study clearly confirmed this finding. Opportunities for mildly handicapped were available in most of these districts, because the special education staff was managing the program rather than tapping into existing work experience programs for nonhandicapped students.

Administrators in many of the low districts (60%) considered access to be equal, since they noted that programs were limited for everyone. This observation, that access in low districts was generally low for all students, was confirmed in the data collected during phase two.

Transition Programming

The investigators hypothesized that a district involved with early work experience would be concerned with the students' transition upon graduation and included several questions concerning transition programming in the interview. In all districts in the high group, administrators were able to pinpoint a time in the student's career when the family became involved in transition considerations; they were also able to designate an age at which their mildly handicapped students had transition considerations on their IEPs. On the other hand, in the low group, only 40% of the administrators were able to identify an age at which families became involved and only 46% were able to identify an age at which transition considerations would be mentioned in the student's IEP. Several pointed out that considerations were discussed on an informal basis in their districts. When an age at which transition definitely was given some consideration was specified, those in the low districts reported waiting until age 18 to begin thinking about this, while those in the high districts usually stated that staff started their considerations around age 15. Although discrepancies existed in ages between which high and low districts began documenting transition considerations on the IEP, little discrepancy existed between districts regarding the point at which families became involved. Administrators in low districts sometimes pointed out that they had informal involvement with transition issues, and, in a situation which did not call for formal specification such as the IEP required, they were able to designate an age when informal involvement began.

Despite the current discussion in the literature concerning Individual Transition Plans (ITPs), little evidence existed of any activity regarding such plans in either the high or low districts. Transition considerations were recorded on the IEP; however, a multi-year year plan describing objectives for the student to extend beyond the high school years was rarely in evidence.

Resolution of Common Work Experience Obstacles

The study's major focus was on problem solving at the district administrative level. One of the first steps in problem solving is the recognition and definition of existing problems. The data showed few differences in problem recognition across the high and low groups. In fact, many administrators in the low groups attempted to elaborate on problem areas, indicating considerable concern with the level of work experience districts were providing.

Distinctions between the high and low groups became apparent as the interview's focus turned from problem recognition to problem solution. Several of the solutions examined here were offered by Wehman, Moon, Everson, Wood, and Barcus (1988) in their summary of findings from three model programs. Questions this study examined were: (a) how closely would local school districts mirror the model program solutions as summarized by Wehman et al. (1988) and (b) would the school districts in the high group be more likely to have used the solutions proposed by the model programs.

Model program solutions seemed to find application in distinguishing the high from the low groups in the category of transportation obstacles. The solutions high districts shared with the model programs were: (a) use of parents' vehicles, (b) choosing facilities within walking distance of school, (c) use of volunteers (however, not reimbursed for mileage as in the model programs), and (d) use of school district vehicles (e.g., vans, cars, buses). In addition to solutions suggested by the work of Wehman et al. (1988), other solutions which distinguished the groups in transportation, as well as in all the other obstacle categories, were solutions identified during the pilot study. For transportation, these solutions were: (a) use of aide transportation (rather than teacher transport, as the model projects had suggested) and (b) drivers' licenses for students.

While low districts did not experience the same success as high groups in problem solving, nonetheless, they did attempt to apply some of the same solutions as the high districts. However, in all but one obstacle category (state regulations), solutions were found which distinguished the high from the low groups. In many cases, administrators in the high districts commented that these particular solutions, later found to distinguish the groups, seemed the key to their success in dealing with the obstacle category under consideration.

Interagency involvement proved to be an area in which few of the solutions suggested discriminated between the groups. Judging from the responses the interviewer received, this study has only begun to touch upon some of the issues concerning administrators. Many reported their extreme frustration in dealing with agencies and their dissatisfaction with the progress made to date. This

area obviously merits a great deal more intensive investigation than was possible here.

Community involvement seemed to strike at the heart of many of the administrators' problems. The four solutions discriminating high and low districts provide some initial observations about this important area. All were solutions with which the majority of administrators in high districts agreed strongly, as indicated by their supplementary responses. The solution concerning the creative staff members who are able to generate new job options seemed especially to merit further investigations. The second phase of the study, not reported here, examined the perceptions of these individuals in more depth.

One of the observations of the high districts was the strong commitment they and their staff had toward providing early work experience. This commitment was translated into a plan of action, often utilizing only the available resources within the district. The program obstacle concerning funding best exemplifies this point. The majority of those in the low districts considered funding a major obstacle to creating an early work experience program for their mildly handicapped students. On the other hand, those in the high districts, for the most part, did not consider funding to be an obstacle to their efforts. The majority stated that funding could not be considered any more of a problem here than to the rest of their program. Many noted that they had been able to keep their programs going by managing their existing funds carefully. They were far more concerned with problems of staffing, transportation, and interagency/community involvement. In these areas, they had expended considerable effort in search of solutions; in some cases, they had been successful; in other instances, they were continuing to search for other solutions. The level of activity in the search for options to deal with the various obstacle categories was high in the active districts. While most of the administrators recognized problems, and often attributed certain of these problems to their districts' failures to provide early work experience, those in the high districts continued their search for solutions and, in many cases, were rewarded in their efforts.

Summary

The high and low districts included in this study were found to differ significantly in terms of their utilization of staff, their transition programming efforts, and their efforts to find solutions to many of the obstacles in creating an early work experience program. They were districts which had, for the most part, attempted to provide work experience opportunities beyond those available to the nonhandicapped in their districts. As the study progressed, the investigators realized that the administrators and staff in these high districts were individuals

who were highly committed to providing quality early work experience programs to mildly handicapped students. These were individuals who had spent considerable effort seeking to overcome the obstacles facing all districts across the state and had found solutions which had allowed them to make their programs work for their students.

REFERENCES

Black, T. (1976). Where do I go from here? The involvement of vocational rehabilitation and occupational education with the learning disabled in North Carolina. Rehabilitation Literature, 37, 169-171.

Brolin, D., Durand, R., Kramer, K., & Muller, P. (1975). Post-school adjustment of educable retarded students. Education and Training of the Mentally Retarded, 10, 144-149.

Cox, J., Frank, N. Hocutt, A., & Kuligoski, B. (1984). An exploration of issues regarding transition services for handicapped students in secondary schools. Volume II. A policy oriented study of special education service delivery systems. Research Triangle Park, North Carolina: Research Triangle Institute.

Edgar, E. (1987). Secondary programs in special education: Are many of them justifiable? Exceptional Children, 53, 555-561.

Edgar, E., Levine, P., & Maddox, M. (1987). Statewide follow-up studies of secondary special education students in transition. Seattle: University of Washington.

Fardig, D., Algozzine, R., Schwartz, S., Hensel, J., & Westling, D. (1985). Post-secondary vocational adjustment of rural mildly handicapped students. Exceptional Children, 52, 115-121.

Gilbert, J. (1973). A survey of selected aspects of work-study programs for educable mentally retarded students attending public schools in the state of Utah. Unpublished doctoral dissertation, Brigham Young University.

Halpern, A. (1973). General unemployment and vocational opportunities for EMR individuals. American Journal of Mental Deficiency, 78, 123-127.

Halpern, A., & Benz, M. (1987). A statewide examination of secondary special education for students with mild disabilities: Implications for the high school curriculum. Exceptional Children, 54(2), 122-129.

Hasazi, S., Gordon, L., & Roe, C. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979-1983. Exceptional Children, 51, 455-469.

Hasazi, S., Gordon, L., Roe, C., Finck, K., Hull, M., & Salembier, G. (1985). A statewide follow-up on post high school employment and residential status of students labeled, "mentally retarded." Education and Training of the Mentally Retarded, 20(4), 222-234.

Horn, W., O'Donnell, J., & Vitulano, L. (1978). Long-term follow-up studies of learning disabled persons. Journal of Learning Disabilities, 16, 542-555.

Knowlton, F., & Clark, G. (1987). Transition issues for the 1990's. Exceptional Children, 53, 555-561.

Maddox, M., & Edgar, E. (1984). Maneuvering through the maze: Transition planning for human service agency clients. Seattle: University of Washington, Networking and Evaluation Team.

Malouf, D. (1982). Is your school helping or hindering the career/vocational development of handicapped students? Pointer, 26(4), 18-20.

Margalit, M., & Schuchman, R. (1978). Vocational adjustment of EMR youth in a work-study program and a work program. American Journal of Mental Deficiency, 82, 604-607.

Mithaug, D., & Horiuchi, C. (1983). Colorado statewide follow-up survey of special education students. Denver, CO: Colorado Department of Education.

Mithaug, D., Horiuchi, C., Chiyo, O., & McNulty, B. (1987) Parent reports in the transitions of students graduating from Colorado Special Education Programs in 1978 and 1979. Study commissioned by the Colorado Department of Education.

Mithaug, D., Horiuchi, C., & Fanning, P. (1985). A report on the Colorado statewide follow-up survey of special education students. Exceptional Children, 51, 397-404.

Mock, W. (1974). A comparison of graduates of work study and traditional programs designed for those formally labeled educable mentally retarded (EMR). Unpublished doctoral dissertation, University of Southern California, Los Angeles.

Stowitschek, J. (1987) Administrators' perceptions of early work experiences and trarsition programming. Second annual report: Institute for Transition Research on Problems of Handicapped Youth. Seattle: Institute for Transition Research, 284-296.

Strickland, C,. & Arrel, Y. (1967). Employment of the mentally retarded. Exceptional Children, 34, 21-24.

Weatherman, R., Stevens, L., & Krantz, G. (1986). Passages to career: A framework for transition policy for mildly handicapped young adults. University of Minnesota, Department of Technical Education and Department of Education Psychology.

Wehman, P., Kregel, J., & Seyfarth, J. (1985). Transition from school to work for individuals with severe handicaps: A

follow-up study. Journal of the Association for Persons with Severe Handicaps, 10(3), 132-36.

Wehman, P., Moon, M., Everson, J., Wood, W., & Barcus, J. (1988). Transition from school to work: New challenges for youth with severe disabilities. Baltimore: Paul Brookes.

Wilburn, G. (1975). The effects of a work study program on identified probable dropouts. Unpublished doctoral dissertation, University of Missouri-Columbia.

Will, M. (1985). Opening remarks. Journal of Adolescent Health Care, 6, 79-83.

Table 1

Population Sample Allocation

	Enrollment			
District	1-200	210-999	1000+	Total
High Active	4	7	4	15 (50%)
Low Active	4	7	4	15 (50%)
Total	8 (26%)	14 (47%)	8 (27%)	30 (100%)

Table 2

Work Experience Status

Category	High Group	Low Group
Mean number of mildly handicapped students	47.80 47.80	106.40 [43.14] *
Mean number of students in school-sponsored employment	18.60 ** 18.60 **	5.13 [1.21] *
Mean number of students in student-initiated employment	7.00	5.64

* [Revised Low Group mean excluding largest district]
** $p<.05$

Table 3

Staffing: Full Time Equivalence, Assignment, and Time Investment in Work Experience Programming

Category	High Group	Low Group
	Mean FTE	
FTE teachers for handicapped	3.45	6.33 [1.99] *
FTE aides for handicapped	2.42	3.55 [1.87] *
FTE teachers for mildly handicapped	2.58	1.89 [1.74] *
FTE aides for mildly handicapped	1.51	1.46 [1.46] *
	Percentage of Districts	
Staff for mildly handicapped work experience	93.33% **	13.33%
Coordinator for work experience	80.00% **	6.70%
Release time for site visits	93.33% **	13.33%
	Mean Time Investments in Program	
Coordinator's time in work experience	8.40 hrs/wk **	0.27 hrs/wk
Greatest avg. time/week in work experience	10.00 hrs/wk **	2.53 hrs/wk
Years of work experience staff assignment	8.40 yrs **	7.13 yrs

* [Revised mean excluding largest district]
** $p<.05$

Table 4

Do Mildly Handicapped Have Equal Access To Work Experience?

Category	Number and Percent of Districts					
	High Group		Low Group		Total	
	No.	%	No.	%	No.	%
Administrators Answering Without Qualification						
No	0	0.0	1	6.6	1	6.6
Yes	3	10.0	5	16.7	8	26.7
Administrators Answering "Yes" With Qualification						
Yes/Everyone is limited	0	0 0	9	30.0	9	30.0
Yes/More than non-handicapped	12	40.0	0	0.0	12	40.0
Total	15	50.0	15	50.0	30	100.0

Statistical Test (SPSSX ONEWAY): $F(3,26) = 26.00$, $p<.05$

Table 5

Transition Programming

Category	High Group	Low Group
	Percent of Districts	
Begin transition considerations on IEP when student reaches specific age	100.0 *	46.7
Begin involving family in transition considerations when student reaches specific age	100.0 *	40.0
Develop for the mildly handicapped student a multi-year plan which extends beyond the high school years	13.3	6.7
Hold transition planning meetings	66.7 *	20.0
Use consultants for technical assistance	60.0 *	20.0
	Average Reported Student Age	
Age for IEP transition considerations to begin	15.21	18.43
Age for including families in considerations	14.86	15.17

* $p<.05$

Table 6

District Internal Problem Resolution

Category	High Group		Low Group
	Percent of Districts		
STAFFING			
Recognition of staff problems	93.3		86.7
Options considered	93.3	*	6.7
-- Use team teaching	13.3		0.0
-- Use volunteers	6.7		0.0
-- Use aides	33.3	*	0.0
-- Examine mode of handling communication	6.7		0.0
-- Increase # of staff positions	26.7	*	0.0
-- Hire staff specifically for program	26.7		6.7
-- Designate coordinator and allow release time for program	80.0	*	6.7
-- Free one person part time for program	40.0	*	0.0
-- Free one person full time for program	0.0		0.0
-- Provide inservice/technical assistance to staff	40.0	*	0.0
-- Tap into existing voc ed program	13.3		0.0
TRANSPORTATION			
Recognition of transportation problems	73.3		66.7
Options considered	100.0	*	6.7
-- Use parents' vehicles	26.7	*	0.0
-- Choose facilities within walking distance of school	46.7	*	0.0
-- Use volunteers	6.7		0.0
-- Use public transportation	13.3		6.7
-- Use teacher transportation	20.0		0.0
-- Use aide transportation	26.7	*	0.0
-- Use school district vehicles	66.7	*	6.7
-- Have students use bicycles	20.0		0.0
-- Stress driver's licenses for students	60.0	*	0.0
-- Provide mileage reimbursement to students	0.0		0.0
-- Rely upon district jobs	13.3		0.0
LIABILITY AND SAFETY			
Recognition of liability and safety problems	40.0		40.0
Options considered	80.0	*	6.7

Table 6 (Continued)

-- Develop district wide policy by Board of Education	0.0		0.0
-- Use district liability insurance policies to cover students while in community	53.5	*	6.7
-- Purchase 24-hour coverage offered to families for minimal fee at beginning of year	0.0		0.0
-- Cover students paid a wage with workers' compensation insurance	40.0	*	0.0
-- Have specific school and student agreements	13.3		0.0
-- Have written training agreements between student, parent(s), teacher, and participating employer	53.3	*	0.0
SCHEDULING			
Recognition of student scheduling problems	46.7		46.7
Options considered	73.3	*	6.7
-- Involve superintendent	20.0		0.0
-- Involve principal	60.0	*	0.0
-- Stress communication with parents	6.7		0.0
-- Rely upon the IEP process to alleviate possible conflict	13.3		6.7
-- Communicate with school board	6.7		0.0
FUNDING			
Recognition of funding problems	20.0	*	73.3
Options considered	60.0	*	0.0
-- Use JTPA Funding	13.3		0.0
-- Use vocational education monies	26.7	*	0.0
-- Use career education money	0.0		0.0
-- Apply for special grant money	6.7		0.0
-- Reallocate existing funds	20.0		0.0

* $p<.05$

Table 7

District External Problem Resolution

Category	High Group	Low Group
	Percent of Districts	
INTERAGENCY INVOLVEMENT		
Recognition of interagency involvement problems	73.3	53.3
Options considered	66.7	40.0
-- Work to establish communication	40.0	26.7
-- Have 1-2 staff work at networking in the community	26.7 *	0.0
-- Find key contact people in agencies	53.3	26.7
-- Respond to agency efforts to work with the schools	6.7	13.3
-- Stress participation in interagency groups	6.7	6.7
-- Have district schedule interagency meetings	13.3	6.7
-- Benefit from county commitment to agency involvement	6.7	0.0
STATE REGULATIONS		
Recognition of state regulation problems	20.0	33.3
Options considered	86.7 *	53.3
-- Ignore regulations when possible	20.0	20.0
-- Do not report certain activities	20.0	13.3
-- Work around regulations	33.3	13.3
-- Bend regulations	33.3	26.7
-- Unaware of regulation details and where problems might be	13.3	13.3
-- Work with the regulations	73.3	40.0

Table 7 (Continued)

COMMUNITY INVOLVEMENT			
Recognition of community involvement problems	100.0		86.7
Options considered	100.0	*	6.7
-- Make repeated visits to prospective employers to convince them to give program a trial	86.7	*	6.7
-- Establish interdistrict cooperation to provide work in same geographic location	20.0		0.0
-- Use community advisory board	13.3		0.0
-- Emphasize community networking	73.3	*	6.7
-- Use the media	6.7		0.0
-- Solicit commitments from community members	53.3	*	6.7
-- Contact community groups (e.g., Chamber of Commerce)	46.7	*	6.7
-- Have creative staff to generate new jobs in the community	73.3	*	0.0
-- Rely on district (not community) jobs	20.0		0.0
-- Have an excellent staff person to work in the community	40.0		0.0
-- Provide employer support and follow-up	20.0		0.0

* $p<.05$

THE EMPLOYED HANDICAPPED: CHARACTERISTICS OF THEIR EMPLOYERS

by

William J. Schill, Rosemarie McCartin,
Delores E. Craig, William E. Boyd,
and Karen Matthews

Introduction: Intent of This Monograph

One of the intents of this monograph is to look at the employment of handicapped individuals from the perspective of the employers. Material is presented on policies that influence the employment of individuals with handicapping conditions. This discussion sets the stage for the presentation of data from a number of sources: (1) a survey of employers in the State of Washington, (2) a series of interviews with individuals with handicapping conditions who were identified from schools or training programs, and (3) a study of the employees of a major hospitality industry corporation. However, the review of literature is not restricted to the handicapped. Comparisons are made between the experiences of individuals with handicapping conditions and their non-handicapped cohorts. In some instances there are comparisons made with individuals identified as being socially, educationally and/or ethnically disadvantaged.

One basic source of data was a random sample of Washington State employers. The survey procedures and results are presented in some detail. In the process of analyzing the survey results it became apparent that the hospitality industry is the major employer of handicapped individuals. It was, therefore, decided to conduct a case study of a major corporation in the hospitality field. The case study was reported in an earlier TROPHY publication (Burgess & Zhu, 1988). Two properties of that corporation were used to collect critical incidence data on handicapped employees. These data are discussed in conjunction with the Washington employer survey.

Data gathered from subjects identified by handicapping condition and then interviewed to determine their employment status and patterns of employment provide the basis for the later chapters of this monograph.

While all the individuals included in the Washington employer survey were competitively employed such was not the case with the individuals identified by handicapping condition. The definitions of employment status used throughout this monograph are as presented below.

Employment

In western societies, the concept of adult status embraces all those factors which contribute to one's ability to become a member of the work force, and ultimately to gain economic self-sufficiency. For many individuals, however, the transition from youthful dependence to adult independence is not clearly demarcated. For example, some individuals who are not now employed do maintain adult status because they qualify for welfare which pays for room and board. Under the best conditions, youthful dependence should yield to adult status sustaining the social ideal. The federal emphasis on transition has, as a primary objective, the placement of handicapped individuals in competitive employment. The parents and guardians of handicapped youth agree with that objective, and have lobbied long and hard for the development of policies that support the rights of the handicapped to participate as fully as possible in adult society. The current literature addresses four types of employment, and each requires some definition.

Definitions

Competitive employment. That employment which is not restricted to any identifiable group of individuals. Competitive employment implies that employers select their employees from the pool of existing labor and design the work and rewards to be sufficient to attract applicants.

Subsidized employment. There are a number of ways in which government subsidizes employers for hiring targeted groups of citizens. The most generally applicable form of subsidy comes as tax relief (Targeted Job Tax Credits) and is applicable to the graduates of Job Corps, Civilian Employment Training Act (CETA) programs, veteran groups, and the handicapped if they meet the criterion of being financially disadvantaged. The Department of Vocational Rehabilitation has a more direct subsidy for qualifying handicapped individuals that pays a substantial part of the wages for a specified learning period while the worker comes into full production. Subsidized employment is intended to assist individuals in need of training and experience to qualify for competitive employment.

Supportive employment. A new concept applicable only to the handicapped is that of supportive employment. Supportive employment work stations include assistance to the employer and employee from off-work-site personnel in training and social adjustment to the workplace. Once again, the intent of supportive employment is to provide adults with disabilities the training and experience necessary for competitive employment. Within current definitions, supported employment may be less than full time and offer pay below the minimum wage, although it is assumed that more hours of work and higher rates of pay constitute desirable objectives. Less than half-time work is below the minimum standard for supportive employment.

Supportive employment starts when the labor of the individual is successfully marketed to an employer and a paid job is secured (Rhodes, 1986).

Sheltered workshops. As the name implies, sheltered workshops are for individuals with rather severe handicapping conditions. The work atmosphere is supportive and quasi-production-oriented. With grants from tax-supported agencies or contract with private sector business or both, the handicapped in sheltered workshops receive modest compensation for the time spent in the work.

Employer's Policies: Incentives and Expectations

Credits, Incentives, Accommodations

With the passage of the Rehabilitation Act of 1973 (and its momentous section 504) employers were forbidden by federal law from using hiring policies that discriminated against applicants on the basis of handicap. The new civil rights law protected the rights of handicapped job seekers. Promoters of the rights of the handicapped also noted that employers had legitimate rights. To be compelled to hire persons with handicaps, for example, sometimes forced employers to assume major burdens that required costly accommodations. To encourage employers to venture more aggressively into the field of hiring the handicapped, it was argued, employers deserved financial incentives. Public support for costs of accommodation and tax benefits for hiring the handicapped were forthcoming.

A sympathetic understanding toward employers is popular with support agencies that promote the hiring of the handicapped. The agencies' profile of the typical private-sector employer coincides with employers' own self-assessments. Handicapped-support groups appreciate that employers are in business to make money. But the agents for the handicapped know that employers are not running non-profit social agencies. The employers' dependents, investors, creditors, and employees expect the employer to keep the business in the black. It is inescapably essential that employers try to minimize fixed cost and maximize profits. Given this profile, it follows that employers should be offered financial incentives to comply with national policy on the hiring of handicapped persons. Accordingly, compensation arrangements have been established.

Compensations and handicapped situations vary considerably. Although deafness and blindness sometimes pose special problems, employers generally encounter fewer difficulties accommodating physically disabled employees than mentally disabled (Combs & Omvig, 1986). Physically disabled persons, sometimes after properly tailored accommodations, earn positions at all levels of the world of work, from top-level management to secondary

employment (i.e., low skill-level work). Mentally handicapped workers, on the other hand, remain at the level of secondary employment. Tasks free of frequent interruption and relying on repetitive and uncomplicated skills, such as service and maintenance assignments, seem best suited to mentally retarded persons. With adequate compensations, it is asserted, none of the costs for physically and mentally handicapped workers are unmanageable. Most accommodations, indeed, cost nothing. Only rarely does any accommodation cost $2,000 or more (Schwartz, 1985). One official of the Marriott Corporation, a major employer of handicapped persons, estimated that, except in rare cases, it cost less than $100 to accommodate a mentally handicapped worker (Burgess & Zhu, 1988, p. 57).

Compensations or inducements have taken several forms. There are monetary incentives. Employers were made eligible for a one-time tax deduction of up to $35,000 for removing architectural or transportation barriers to the handicapped. In 1978, the enactment of the Targeted Job Tax Credit (TJTC) program allowed employers to earn tax credit for hiring certain handicapped persons. The Job Training Partnership Act (JTPA), begun in 1983, provides for the coordination of federal, state, and local resources for job-training purposes. The Job Training Partnership Act program provides employer reimbursement of up to one-half of the wages paid during the training period for up to 250 hours. Projects With Industry (PWI) also assists with skill training, employment, and support services (Schwartz, 1985).

The Vocational Rehabilitation On-The-Job Training (OJT) programs offer an employer a chance to share wage costs during the handicapped employee's on-the-job training period. Vocational Rehabilitation normally pays as much as half of the first month's wages and one-fourth of the second month's wages. Certain specific disabling conditions earn the employer monetary savings. The Association for Retarded Citizens (ARC) has also paid at the same rate as Vocational Rehabilitation for persons with mental retardation. Similar arrangements have been developed for other kinds of special needs. When an epileptic employee is involved, for example, credits are available through the Epilepsy Foundation of America.

Beyond direct monetary inducements, employers are encouraged to take advantage of a wide range of services. The Job Accommodation Network (JAN), for example, offers specific suggestions for accommodating employees with disabilities and provides detailed reports on successful accommodations. The JAN service is free of charge and available by dialing its toll-free number, 1-800-JAN-PCEH. A long list of similar services, ranging from placement to job coaching, is accessible to employers.

Since the late 1970s, with the monetary inducements of the TJTC program and such services as JAN, the hiring of persons with handicapping conditions has flourished in selected businesses. Doubtless, monetary inducements and free services have been

important considerations for employers. But two other considerations have also been important. First, employers in businesses having notoriously high employee turnover--especially the service businesses--soon discovered that mentally retarded employees were less likely to skip work or to job hop. Such employees' work performance was perhaps a bit slower, but the loss in speed was countered by the savings in covering for absenteeism and in training new people to replace the job-hoppers (Brickey & Campbell, 1981).

Second, labor-intensive businesses such as hospitality and services had already been worried by an ominously shrinking labor force. Since 1965, when the domestic birthrate fell below the four million mark, the Baby Boom began giving way to a projected Baby Bust (Ricklefs, 1986). While the number of persons between the ages of 16 and 24 wanes, the National Restaurant Association reported that food service jobs would need to be increased by 32% by 1995 (Kennedy, 1985). Employers participated in the handicapped employment programs with these dismal forecasts well in mind; and they also began to look at the elderly and homemakers as prospective employees.

Sustaining an adequate labor supply has become a crucial concern. In an important sense, the provision of tax incentives and free services as part of the handicapped employment program might represent a misreading of the signs of the times. Many employers and professional advocates of the handicapped agree that tax credits are necessary, that they provide essential incentives to make the hiring of the handicapped economically feasible. Others, meanwhile, disagree. Some point to the shrinking labor force with its chilling projections for the next decade and argue that far-sighted employers will be hiring the handicapped with or without tax credits.

Others ignore speculations about other projected shortages and note the effects of scarce labor in contemporary society. Within the nation at the present time there are pockets of low unemployment. In such locales (Boston, for example), some observers hold that the provision of tax incentives might be considered superfluous. The handicapped, along with the elderly and homemakers, are already seen as essential sources of labor. In arguing against the need for monetary incentives for employers, Wisconsin Representative William A. Steiger concluded that "the beneficiaries of this credit are going to be only those who would hire new people anyway. They will then take advantage of the tax credit, not as a stimulus to create jobs, but simply as a prize for having hired people they were going to hire anyway" (Steiger, 1977).

In another area where unemployment is high, note some observers, there is a stockpile of unemployed "normal" persons who will work for no more than a minimum wage (which might be more than a handicapped employee would cost the employer after tax credits). But in these areas of high unemployment, it is said, the

grateful-to-be-hired "normals" toe the employers' mark, are unlikely to job-hop, and out-produce the mentally retarded. On balance, the tax incentives lose significance and fail as inducements. Whether from the contemporary point of view or from a longitudinal perspective, labor market conditions seem to argue against the need for tax credits.

The Handicapped Employee on the Job

The sheltered workshop has long been the object of professional interest. Until recently it represented virtually the only widespread form of employment opportunity for the handicapped. Since the passage of Public Law 94-142, and especially within the last decade, other employment opportunities have arisen. The new employment goals and arrangements were in part inspired by the pedagogical calls for "mainstreaming" and "least restricted environment." The earlier slogans were poignantly eloquent statements in support of all persons with handicapping conditions, and held special meaning for supporters of mentally handicapped people. What has emerged in the economic field is a concerted attempt by professional advocates for the mentally handicapped to integrate their clients in the normal workplace. To be hired in the competitive marketplace, to be an associate of "normals" at work, to gain economic independence, to succeed according to the dictates of the work ethic--has become a goad to success beyond the sheltered workshop.

Two forms of worker integration are currently implemented. First, there is the approach of employing a subsidized or enclave work force as part of a regular work force. Enclave workers come as a group of commonly four, five, or six into some workplace, say a kitchen. They quite likely come with a professional job coach who often oversees their training and work and ensures that the regular routine of the workplace is not upset by the cluster of newcomers. The gradual blending of the new employees with the old is the ultimate aim.

Second, there is the approach of hiring a single employee as needed to do a given task. With or without a job coach, the new employee is trained to become a regular member of the work force. Unlike the enclave approach, the "competitive" or "single hire" approach appears to be a slower way to integrate the work force in the interests of some "least dependent environment."

Ironically, however, the opposite might be the case. There seems to be a better record of success with the "single hire" approach than with the enclave approach (Burgess & Zhu, pp. 39-42). The competitive (gradualist) approach is conducive to a heightened sensitivity to the task of minimizing chances for the "normals" to be unreceptive or hostile to the new hire. To bring in one mentally handicapped worker at a time, to demonstrate that the work will be accomplished satisfactorily as before, to offset any

negative employee preconceptions about such newcomers is to increase the odds for building a positive base for future handicapped employees. R. Gaylord-Ross, C. Gaylord-Ross, Hagie, Musante, and Jameson (1986) note, "After one successful placement has been made, the work site may be much more willing and able to employ a second or third handicapped worker."

Training Needs of the Mentally Handicapped: Contested Terrain

One waits virtually in vain for an employer to argue that prior vocation training eases the mentally handicapped into the regular work force. Repeatedly, employers call for more prior training in social skills. Some employers would like their hires to be able to recite their full names on request and be able to do basic calculation, but social skills, e.g., personality and grooming, regularly count for much more. Speed or prior experience rate low (Rusch, Schutz, & Agran, 1982; Gruenhagen, 1982). As one employer's training director reported, "It doesn't take much time to teach most of our trainees how to do their jobs. To learn social awareness takes much longer" (Burgess & Zhu, 1988, p. 37).

Even in sheltered workshops, "most work maladjustments" among the mentally retarded are usually "attributable to poor interpersonal skills" (Foss & Peterson, 1981). Employers in sheltered workshops rated grooming and communication skills far above work skills (Johnson & Mithaug, 1978).

In a study by Greenspan and Schoultz (1981), who questioned why mentally retarded workers lost their jobs, it was found that more than 50 percent lost their jobs primarily for social reasons. Moreover, among the rest who were terminated, "inability do to a job satisfactorily apparently played a relatively small role in explaining why mentally retarded workers were terminated." As important as one might think social learning is, Greenspan and Schoultz found that researchers know little about "the role of social awareness or social competence in work adjustment. . ." (Greenspan & Schoutlz, 1981). In another study, once again the majority of terminations were due to reasons classified as social (Hanley-Maxwell, Rusch, Chadsey-Rusch, & Renzaglia, 1986).

Special educators tend regularly to discount the social element or subsume it beneath intensified vocational programs. Perhaps, as Greenspan and Schoultz concluded, social awareness is too difficult to define and lacks "adequate assessment devices" (p. 36). Perhaps it is that influential parents are inclined to think that pre-transitional vocational training should be increased (Hawkins, 1984). A study of employers' perceptions of proper educational qualifications in England produced one of the most telling illustrations of the distance between employers and educators on the question of vocational preparation. Maguire and Ashton (1987) found that employers held little interest in their job applicants' prior vocational studies. Attitudes, behavior--

social learning, once again--counted for most. Indeed, "employers recruiting at lower levels were barely concerned with educational qualifications or the content of the curriculum at all." What almost all employers were concerned about was the "behavior of young people"--their "slovenliness," "cheek," and "disrespect."

The upshot, for Maguire and Ashton, amounted to a non sequitur. They concluded that young people who will enter the lower level of the market system, should be "given a more relevant curriculum, related to their present and future requirements within the local labour market," in order that schooling "might reduce their hostility to education." All the employers had asked for was applicants with good manners; Maguire and Ashton instead offered to provide employers with job applicants versed in the "world of work," aware of "the expectations that employers and others have of them," and of their constricted range of occupational choices. Maguire and Ashton make no mention of character or discipline as an educational objective.

The silent dispute between employers and educators over the relevance of vocational preparation is like two ships passing in the night. The special educators and vocational specialists are set on one course; the employers are on another. The two are not communicating on this sore point. They are scarcely within hailing distance. If they could somehow converse about the relevance of pre-transitional vocational training, they would find themselves speaking different languages.

Other contrary perceptions also seem to encumber the relationships between employers and others. Employers can be scathingly critical of the uneven worth of the job coaches. And parents of the mentally retarded--especially those who, on the one hand, are most anxious to have their children succeed and who, on the other hand, ironically fail to treat their children's jobs with proper seriousness--are often perceived as the greatest saboteurs of their children's successful work experience (Burgess & Zhu, 1988, pp. 39-42). Meanwhile, employers, educators, and parents all claim to have the handicapped workers' interests uppermost in their minds.

Washington State Employer Study

Introduction

A standard approach to the identification and analysis of jobs held by individuals with handicapping conditions is to follow them from an institutional setting to their place of employment. This permits analysis of the differences in characteristics of those placed and those not placed. It also permits analysis of the requirements of the various jobs.

The samples of such studies are not random selections of any universe and do not permit statistical generalization. Even more importantly, the employers identified in conjunction with such studies are not necessarily representative of employers in general or even necessarily an unbiased sample of employers who hire handicapped individuals.

The primary purpose of the study reported here was to provide data analyses useful in identifying certain basic characteristics of some employers who knowingly employ individuals with handicapping conditions.

The studies that focus on characteristics of employers are few despite frequent mention that this is an area for exploration. The whole picture of employment for the disabled will remain incomplete until this missing piece is added.

Review of the Literature

The literature on handicapped employment can be categorized as dealing with two separate areas, the supply side and the demand side of the employment equation. The supply side deals with characteristics of the handicapped and the preparatory experiences offered them. The demand side deals with characteristics of work situations in general, specific tasks of specific jobs, and employer needs and expectations. Both of these literature domains will be briefly reviewed.

The transition of youth with disabilities from high school to adult status has received much attention in the last few years (Will, 1984). Although issues such as educational opportunity and accessibility of community services and activities are important to examine in studies of individuals' attainment of adult status, the primary emphasis has been upon employment (Wehman, 1986; Hasazi, Gordon, & Roe, 1985a; Rhodes, 1986). Numerous studies (96 references in an ERIC search for 1975-1986 using two descriptors--employment and disability) have described a complex set of factors affecting the employment status of disabled individuals.

The literature examined heavily emphasized studies of mentally retarded individuals (Vogelsberg, 1986; Brickey, Browning, & Campbell, 1982; Wehman, 1986; Hasazi, 1986a). Although most of these studies examine individuals whose sole disability is mental retardation, some include subjects with multiple disabilities which include mental retardation. Although not as numerous, there are studies which examine individuals experiencing a variety of other intellectual, behavioral, and physical disabilities (Schalock & Lilley, 1986; Edgar & Levine, 1986; Parent & Everson, 1986; Mithaug & Martin, 1986; Hasazi, Gordon, Roe, Hull, Finck, & Salembier, 1986b).

Studies have focused on the relationship of employment status to a variety of demographic characteristics of disabled individuals. Wehman, Kregal and Seyfarth (1985), for example, described the age, gender, total income level, residential status and transportation skills of subjects. Hasazi et al. (1985a, 1985b) also examined income levels and residential status, but additionally included educational experiences, work history, and contacts with various community services. The Mithaug, Horiuchi and Fanning (1985) study included information concerning subjects' marital status, parental marital status, and community size, as well as data on post-high school economic, educational, and social activities. Research done by Brickey and Campbell (1982) incorporated information on IQ, previous institutionalization and competitive work experience.

Wehman, Moon and McCarthy (1986a) described five employment situations for disabled employees: competitive employment, sheltered work, supportive competitive employment, employment enclaves, and mobile work units. In a cost/benefit study on employment of disabled individuals, Hill and Wehman (1983) defined supported employment as employment which requires the support of a trainer/advocate. In 1985, Wehman, Hill, Hill, Brooke, Pendleton and Britt further defined supported employment as employment not requiring subsidized wages and consisting of four efforts on the part of the trainer advocate: job placement, job-site training and advocacy, on-going accessibility, and follow-up and retention.

Additional noteworthy studies on the status of employment for handicapped workers have been supported by Rhodes (1986) and Vogelsberg (1986) who described supportive employment experiences for disabled employees; by Brickey et al. (1982) who examined the work histories of 73 former sheltered workshop employees who were placed in employment described as competitive; and by Hasazi (1985a, 1985b) who categorized employment types as sheltered, subsidized, or non-subsidized.

Another area of interest to researchers has been categorization of the types of jobs or industries in which disabled individuals are employed. The majority of the studies report that disabled individuals are employed in entry level positions in the service industries, principally food and custodial services (Vogelsberg, 1986; Brickey et al., 1982; Kiernan & Cibsorowski, 1986). A lesser number of positions have been identified in assembly and clerical work (Schalock, 1986; Kiernan & Cibsorowski 1986). An exception to the predominance of food and custodial service employment for handicapped individuals is found in rural areas where the preponderance of employed disabled individuals are employed in agriculture (Schalock & Lilley 1986; Wehman, Kregal, & Seyfarth, 1985; Hasazi, 1985a, 1985b). Parent and Everson's (1986) business literature survey revealed a wider variety of employment experiences for handicapped workers. The positions they reported included offset press operator, draftsman, and library assistant for mentally retarded individuals, and computer

programmer, electronic technician, legal and medical professionals, and managers for individuals with other types of disabilities.

In addition to information regarding areas of employment and specific job tasks performed, job-related statistical data have been collected. Disabled workers are more likely to experience part-time employment and low wages (less than $4/hour) than are non-disabled workers (Edgar & Levine 1986; Vogelsberg, 1986; Kiernan & Gibsorowski, 1986). The most likely sources of information from which disabled persons learn of potential employment opportunities that actually result in employment are self, family, friends, or teachers, and not rehabilitative services, school, or employment counselors (Hasazi, 1935a, 1985b; Mithaug et al., 1985; Wehman, Kregal, & Seyfarth, 1986). A research study done by Hasazi (1985a, 1985b) revealed a positive relationship between summer employment and part-time employment while still in high school and employment after high school. This finding is consistent with data shown by the National Longitudinal Survey of the Labor Market Experience of Youth (1979) which showed that for all youth, handicapped or not, those most likely to be employed seven years after leaving school were those who had worked, either part time during the school year or during the summer, while still in high school.

Although data exist on the nature of jobs and the types of employment which disabled individuals experience, little has been collected recently on the attributes of employers of the disabled. Wehman et al. (1986) investigated the company size of employers who have handicapped employees and found that size was positively associated with different types of employment for disabled individuals. The same study summarized conflicting results of earlier studies that examined the relationships of company size, types of business, and educational level of employer to hiring of disabled employees. Other employer attributes that affect employment of disabled individuals are employers' concerns for employee competency and dependability and employers' susceptibility to negative feedback from employees, consumers, and management stake-holders regarding disabled employees (Wehman, Hill, Goodall, Cleveland, Brooke, & Pentecast, 1982).

The plethora of articles on transition has facilitated understanding of the complexities involved in the process of disabled youths moving from the status of high school student to adult, particularly with regard to employment. Although most studies concentrate on mentally retarded individuals, studies have also been conducted of subjects experiencing a broader range of disabilities, including physical and behavioral disabilities. Disabled employees primarily occupy entry level positions in services industries for minimum wages and in less than full-time positions which is typical of all youth making the transition from school to an independent adult life style (Adams & Mangum, 1978). The suspicion is that while the non-

handicapped worker moves on to primary or adult employment somewhere between 23 and 26 years of age the move takes place for handicapped workers, particularly the mentally retarded, at a much later time, if at all. Data has also been collected relating various attributes of disabled individuals to their employment status. Limited amounts of data have been collected regarding the characteristics of employers who hire disabled individuals.

The transition of disabled youths from high school student to adult status is a complex process, particularly as it relates to employment. It is understood that successfully gaining employment relates to the interaction of a multitude of factors and individuals. Wehman et al. (1986a) writes that transition "must involve special educators, vocation educators, parents and/or the student, an adult services system representative, and possibly an employer."

But it is this last element, the employers, who have received very little attention in the literature. Although employers are obviously an important part of the transition process, particularly with so much emphasis placed upon employment status of disabled individuals, it is not apparent that much is known about the employers of the handicapped. The studies to date have been employee focused, they have followed disabled individuals and addressed the personal problems of individuals related to employment and the problems introduced by either government or private industry policy and procedure that are related to employment of the handicapped. The information that has been collected on employers has been a consequence of the employers' involvement with subjects in various transition studies. The information is for the most part incidental, and may not be representative of the general universe of employers of disabled individuals. In the efforts to facilitate successful transition, it does not appear that serious scrutiny of the labor market, including employers, as urged by Rhodes (1986), has occurred. If, as Wehman et al. (1986) suggest, successful supported or other employment requires the cooperation, understanding, and support of employers willing to provide employment opportunities, then it is necessary to understand the nature of those employers. This study looks at employers who knowingly and purposefully hire handicapped individuals in terms of site size, location, and activity. More research must be conducted to develop a picture of industries and employers that are likely to offer employment opportunities beyond what is currently known to be available in entry level positions in the service industries.

Methodology

Sample

At the request of the University of Washington Institute For Transition Research on Problems of Handicapped Youth (TROPHY),

the Department of Employment Security, State of Washington, selected from their unemployment tax computer files a random sample of 1,000 employers from among the 50,000 plus state of Washington employers who employed 4 or more people. The addresses supplied were verified via the phone books whenever possible and manufacturers and business references were utilized to obtain the name of a responsible person at each site when possible. The function of this verification and personalization was to enhance returns to a brief mail survey form (Figure 1) sent to each of the selected 1,000 employers.

Data Elements

The information requested from each employment site included: (1) the total number of employees, (2) verification of location, (3) the major commercial activities sufficient to permit their classification into one of the Standard Industrial Classifications, and (4) whether or not they employed anyone with a handicapping condition.

For purposes of facilitating the collection, tabulation, presentation, and analysis of data relating to establishments; and, for promoting uniformity and comparability in the presentation of statistical data, the Standard Industrial Classification was developed by the U.S. Department of Labor. The TROPHY Project elected to use this classification system to make comparison between the handicapped population under study and the normative population possible. A four-digit industrial code permitted the assignment to a division in industry that would offer maximal opportunities for cross-data comparisons.

The random sample of employers disclosed that those who responded were distributed across 291 different SICs. They covered the entire range of industrial divisions established in the structure of the Standard Industrial Code system. Among those employers who actually have handicapped employees there is a much narrower range of SICs represented: 45. While it is of some interest to note the diversity of employers who hire the handicapped, the picture of employment for the handicapped becomes much more useful if the employers are classified by their industrial division rather than the rather narrow code itself. When sorted for divisions, the employers of the handicapped are distributed in the following way:

Manufacturing		6
Wood & Paper	4	
Luggage	1	
Elec. instruments	1	
Governmental Bodies		3
Schools		2

Service Industries		31
Food Service	7	
Personal Care	6	
Social Services	4	
Professionals	5	
Plumbing, htg	3	
Financial	2	
Insurance	2	
Employment Agcy	2	
Miscellaneous Industries		22

Given the skewed distribution it was decided to use gross categories for the Standard Industrial Codes rather than the discrete codes.

Procedure

One of four communication strategies was used to establish contact with employers. These strategies were: (1) a letter, on Department of Employment Security (E.S.D.) letterhead, and a survey form were mailed to the employers; (2) an explanatory telephone contact preceded the mailing of the E.S.D. letter and survey form; (3) an explanatory telephone contact proceeding the mailing of the E.S.D. letter and the survey form which were then followed up approximately 30 days later with a TROPHY letter and; (4) the E.S.D. letter, a TROPHY letter giving brief details of the study and the survey form were mailed to the employers.

The handicapping conditions which were being studied were explained to the employers in a letter which was mailed with the original letter from the Employment Security Department (see appendices). The letter indicated the handicapping conditions and specified that anyone who had questions about their definitions could ask for further clarification. Forty-one employers asked for further clarification and received a telephone call from one of the research associates of TROPHY. In the course of the telephone call the seven handicapping conditions were discussed to a degree sufficient to satisfy the employer.

Mailings to the first 500 employers were handled according to communication strategies 1 or 2; they were sent the Employment Security Department letter accompanied by the questionnaire. Phone contacts were made initially to 350 of these first 500 employers to verify addresses, and alert them to expect our letter. These employers comprised communication strategy 2. We were unable to reach 150 of these first 500 employers by phone. These 150 employers comprised the group designated as communication strategy 1.

In December 1986, the staff decided to send additional clarification letters to those in the first 500 who had responded but had not reported any information on numbers of

employees with disabilities and to those who had reported employing people with disabilities but declined to participate further. These employers comprised the group designated as strategy 3. Mailings to the second 500 employers were sent in December 1986. These mailing included the E.S.D. letter, the survey letter and the explanatory TROPHY letter. These employers comprise the group designated as strategy 4.

The return results from these communication strategies are shown in Table 1.

An overall response rate of between 60 and 65% was needed to assure representative information. In order to increase the initial response rate to a more acceptable level, follow-up procedures were initiated. Those employers included ir strategy 1 were employers for whom there was no current phone number or forwarding address, because of this no follow-up activity was possible. For those employers included in strategy 2 who did not respond to the letter, follow-up telephone calls were attempted which resulted in 30 additional responses. The same telephone follow-up procedure was used for employers included in strategy 3 who did not respond to the letters which resulted in 4 additional responses. Telephone follow up for employers in strategy 4 resulted in 189 additional responses.

The return results from the follow-up activities and total response rate are shown in Table 2.

Table 3 displays characteristics of employers who responded to the survey by geographic location and size.

Table 4 displays characteristics of employers who responded to the survey by type of industry and size.

Discussion of Results

Six hundred seventy-one employers out of 1,000 responded to the survey. Of the employers responding 64 indicated currently employing a total of 166 handicapped individuals. Each employer was identified by standard industrial code, geographic area, number of employees, and number of handicapped employees.

Analysis of the standard industrial codes of employers who knowingly hire handicapped individuals substantiated the information in the literature review. The food service industry has the largest group of employers, seven. The personal care service industries such as nursing care facilities and hospitals had six employers of the handicapped. Four employers identified themselves as social services, and an additional five were professional services employers. Other service employers included three plumbing, heating, and electrical services companies; two financial institutions; two insurance agencies;

and two employment agencies. Manufacturing was the next largest standard industrial code group represented with four wood and paper products companies, one luggage maker, and one instruments maker. The remaining employers were three governmental bodies, two schools and others. Table 5 displays the employers of handicapped individuals by size within type of industry.

The analysis of the geographic location of employers showed that 41 employers were located within large metropolitan areas, 15 were located within medium sized metropolitan areas, and eight were located in rural areas. Table 6 displays the employers of handicapped individuals by size within geographic location.

The size of companies that employ handicapped individuals was also analyzed. As in previous studies the greatest number of opportunities appear to be in companies with more than 100 employees. In this study there were: 13 large size employers (more than 100 employees) employing 66 handicapped individuals; 17 medium sized employers (25-99 employees) employing 39 handicapped individuals; and, 34 small employers (less than 25 employees) employing 61 handicapped individuals.

Restrictions of the Handicapped in the Workplace

As was mentioned in an earlier section, there were two sources of data on competitively employed individuals with handicapping conditions. The first to be discussed is the Washington employer survey where the restrictions placed on the handicapped employees is based on the use of task checklists. The second source to be discussed is the information gathered via the application of the critical incident technique at two properties of a major hospitality corporation.

Checklist Approach

Published material reviewed in this section concerns the attributes of handicapped workers and the use of task analysis to understand specific jobs and workers. Handicapped workers have been studied in terms of skills and attitudes likely to promote employment, but there are few published articles on the relevance of limitations imposed by employers once they are on the job.

A review of the literature on task analysis shows that this method of studying a job has been used for more than 40 years, and is generally of two types. Task analysis is conducted with either an orientation to the job or to the worker. In this study both approaches were combined to understand whether there are differences in the work assignments of handicapped individuals,

and whether those differences are meaningfully related to the handicap of the worker.

After a discussion of the relevant literature on attributes of handicapped workers, and the literature on task analysis, there will follow a highlighting of the research question of interest in this study. Discussion of the methodology used precedes findings and conclusions.

The handicapped group which has been the primary focus of research has been the mentally retarded (Vogelsberg, 1986; Wehman, 1986). Wehman, Hill, Wood, and Parent (1987) indicated that there has been an intensified effort to improve the employment prospects of the mentally retarded. They indicated that these efforts have mainly focused around sheltered or supported employment. These types of employment situations place the primary emphasis on the development of competencies in difficult benchwork manual assembly, and make the assumption that the handicapped person is limited to situations with limited demands.

"Competitive employment" is a term used by Wehman (1981) to indicate situations where the handicapped person is employed in a job that is also available to nonhandicapped persons. Wehman (1981) sees competitive employability as based on specific work skills, independent living skills, parent and family attitudes toward the handicapped person's work, and general work skills. No empirical support for these variables was offered. A review of the literature specific to employment and training for the handicapped indicates that the variables cited by Wehman (1981) are regarded as important. Social skills are a part of the category Wehman referred to as independent living skills. Bullis and Foss (1986) indicated that social skills have been shown to be critical to keeping a job. Azran, Salzberg, and Stowitschek (1987) concurred, stating that social skills are as important as job skills in keeping a job.

There are reports of training programs to teach specific job skills. Cuvo, Leaf, and Borakove (1978) discussed the need for acquisition, generalization and maintenance of specific job skills to achieve the goal of employment for the retarded. Rusch, Martin, and White (1985) researched the problem of maintaining those specific job skills once the handicapped worker achieves competitive employment. They suggest some combination of training external and internal cues for behavior so that the person is less dependent on the external reward system of most skill development programs.

Hastings, Hill, and Kindinger (1983) looked at the question of whether vocational training programs actually prepare the handicapped workers for the real world. They theorized that there are personal qualities and work habits that all employers seek. These general traits must be a part of the training of all workers if they are to be successful. These traits include some

of the same elements as those put forward by Wehman (1981) but are expressed more in terms of work habits.

The literature on the employment experience of handicapped persons indicates that those who are working have been identified by their demographic information rather than by their prior training. Wehman, Hill, Goodall, Cleveland, Brooke, and Pentecost (1982) did a follow-up study of clients placed in competitive employment. The handicapped workers had IQs ranging from 30 to 50 and were employed primarily in entry-level service jobs. Of the 63 persons placed in jobs, 38 were still employed at the time of the followup. Family attitude and support was identified as being a key factor. Wehman et al. saw the family as generally being overprotective and overly concerned about the ability of the handicapped person to cope. Attitudes of co-workers and employers turned out to be accepting as long as the handicapped person was able to do the job. Wehman, Hill, Hill, Brooke, Pendleton, and Britt (1985) did a second followup of the same program and found that the handicapped persons were experiencing a longer mean time employed at the same job than was experienced in the industry by nonhandicapped persons.

Hasazi, Gordon, and Roe (1985) did a similar study of handicapped persons who were competitively employed. They found that 65% of the handicapped workers actually in the job market were employed. In terms of the educational experience of the handicapped workers, 60% of those who graduated from secondary education programs were employed; 50.7% of those who dropped out were employed. The greatest source of help in finding a job came through the self-friend-family network. Other demographics of the employed handicapped individuals are also outlined.

The literature clearly indicates what variables are considered to be important in preparing the handicapped person for employment. Employability can be measured in terms of specific work skills, independent living skills, family and friend support systems, and general work habits. There is also agreement that handicapped persons are typically employed in entry-level service jobs. There is some concern about the maintenance of work skills once employed. There is no indication of concern that the handicapped person may be unnecessarily restricted in their employment experience. The movement toward competitive employment indicates that the previous view that persons with severe handicaps needed a special work environment is no longer valid. Many handicapped persons are successful in seeking and keeping competitive employment. If handicapped individuals were able to cope with less supportive environments, it seems worth exploring whether they actually need some of the supports in the competitive employment environment. Supports can sometimes allow a person to work who would not otherwise be employable. Supports can also limit the worker if the support prevents promotion. This paper explores the limitations placed on handicapped workers by employers who consciously hire the handicapped.

Task Analysis

Consideration will now be given to options available in researching performance of the handicapped. Task analysis has been the focus of extensive research since the 1940s. This method started with the traditional work measurement system designed by industrial engineers which was later combined with work flow techniques used in manufacturing process studies. These techniques were used to determine wage and salary rates with respect to the workers' skills, effort, responsibility, and work conditions. Later, job analysis moved from manufacturing settings to personnel management, personnel selection, and education.

Palmer and McCormick (1961) indicated that there are two ways to describe human work. Work can be described in terms of job characteristics, which includes technology and accomplishments resulting from work. The second approach is to describe work in terms of what workers do in performing their job, rather than in terms of outcomes. Palmer and McCormick reported the results of a factor analysis on the results of a worker oriented study, stating that the orientation to worker behaviors is more promising in yielding training information.

Task analysis orients to consideration of the worker or consideration of the job, and also involves selection of a research method. Task analysis has been accomplished by means of questionnaire-type instruments and by observation. The advantages of each approach are considered.

An example of the use of an instrument for conducting a task analysis is available in the work of Banks, Jackson, Stafford and Warr (1983). The Jobs Components Inventory was used to examine two contrasting groups of jobs in engineering and clerical work according to five main sections. The five main sections of the Inventory included tools and equipment; perceptual and physical requirements; mathematical requirements; communication requirements; and decision-making and responsibility. The instrument is based on an orientation to the job and the accomplishments of the job. Reliability was established by a comparison of supervisor responses on the Inventory with profiles of current job holders.

Another example of the use of a specific instrument for task analysis is the work of Cunningham, Boese, Neeb, and Pass (1983). This instrument is worker-oriented rather than position-oriented and is called the Occupational Analysis Inventory (OAI). It was developed by a factor analysis of the ratings of work elements for 1,414 jobs. The resulting factors were deemed both intuitively meaningful and significantly related to the abilities of relevant job holders.

McCormick, Jenneret, and Mecham (1972) developed a structured task analysis instrument containing 189 elements. They

administered the instrument to 29 psychologist who rated attributes on various criteria, and then used a factor analysis to come up with a universal job dimensions list. This represented a worker oriented qualitative descriptive approach, and appeared most useful for theoretical discussion of elements of work.

Observation has been employed in task analysis to gain relevant insights beyond description or classification of a job. In their review of job analysis research, Prien and Ronan (1971) described observation as a methodological approach which has application in obtaining information for nonstandard tasks or when the focus is human performance and training. Latham and Wexley (1977) used observation of behavior as a means to evaluate performance. Observations were based on the critical incident technique of Flanagan (1954). The job analysis was accomplished by means of task lists obtained from experts on the job. Latham and Wexley argued that this was the most objective means to evaluate a job and job performance.

Levine, Ash and Bennett (1980) compared four analysis methods: critical incidents; job elements; Position Analysis Questionnaire; and task analysis. They found that observation using the critical incidents method was favored by participants for developing performance standards.

The literature on task analysis shows approaches which are oriented either to the job itself or to the worker incumbent in the job and their tasks in conducting the job. The methods used for carrying out a job analysis involve the use of instruments or the use of observation. Observation is favored when there is a need to be aware of the particulars of performance of workers, while instruments appear to be more useful in the development of global or theoretical information about work factors.

The research question of interest to this discussion is one which relates to the evaluation of the performance of the handicapped worker as it contrasts with the performance of the nonhandicapped worker. Is there a difference in the performance of the handicapped and nonhandicapped worker? Are the limitations placed on handicapped workers necessary, and are those limitations likely to limit promotion and career development?

Methodology

The instruments necessary for this study included checklists, observation protocols, and a critical incident observation method. The checklists were used in the development of information about the specific tasks of each of the general categories of work in which handicapped are employed, in the manner of a task analysis. Need for the observation protocol stemmed from the requirement to collect comparative independent

information about the actual work of handicapped employees and nonhandicapped employees. The critical incident observations were the means for making performance evaluation about limitations on workers.

The first activity in developing a list of tasks to be validated was to glean from the literature a composite of the tasks thought to be common to a given job. The U.S. Department of Labor through the Job Corps has developed comprehensive lists of job standards for over 100 jobs. These included kitchen helper, custodian and office clerk, all of which matched jobs held by the subjects in TROPHY research. The Job Corps lists of job standards were compared with similar lists developed by the research office of the American Restaurant Association, U.S. Bureau of Naval Personnel, Oregon State Job Cluster analysis, and the outcome expectations of several vocational schools.

The composite lists of job tasks erred in the direction of being as inclusive as possible since the intent was to compare the day to day activities of employed individuals with handicapping conditions to the day to day activities of non-handicapped individuals employed in like capacities. In developing a task list for food service workers, it was necessary to work closely with a supervisor of food service workers. A list of the various tasks necessary to complete food services work was assembled from interviews of supervisors of the food service workers in the University of Washington HUB facility, which services three meals per day to the students and staff. It is essentially a cafeteria style food service, with self-service centers for food, condiments, silverware, napkins, and trays. The tables are bussed by food service workers. Tasks listed were those regarded as critical to the performance of food service work in general, and the HUB facility in particular. The list was given to supervisors of work teams that included both handicapped and nonhandicapped workers. The supervisors marked the task list to indicate how often employees perform the various tasks. The supervisor completed a tasks list first for the nonhandicapped workers, then later for the handicapped worker. The supervisor was asked to add any tasks the worker had to do that did not appear on the list. The supervisor was also asked to note any accommodation specifically needed for the handicapped employee. Appendix A contains a copy of the checklist.

The observation segment of the data collection formed a basis for verifying whether there are real differences in the work of the handicapped and nonhandicapped worker. The method selected was real time observation, followed by recording on a post-observation checklist which made use of an inventory style. What was of interest was not frequency of behaviors, but whether or not behaviors occurred. Under such circumstances Sackett, Ruppenthal and Gluck (1978) recommended real time continuous sampling to provide the maximum opportunity to observe infrequent momentary behaviors. Real time continuous sampling

involves a block of time in which there is uninterrupted observation, after which the observer records what is observed during the real time block.

The observations mixed periods of observation of the handicapped with periods of observation of the nonhandicapped at the worksite. The order of observation of these two types of employees was random. The observers used an accepted method of randomizing events. Prior to arrival at the observation location the observer randomly set the order of observation. Each separate observation was recorded on a separate checklist sheet. Observation periods were from 5 to 10 minutes, depending on the stability of the work situation. If there was not much activity, it was deemed necessary to observe for the entire 10 minutes to see even one complete event. If there was a great deal of activity, a shorter period of time allowed for more accurate recall of events. Each period of observation was followed by a break in which the observers recorded their observations. The form for recording observations was a list of the frequently encountered tasks of entry level service jobs such as those generally held by handicapped individuals. A sample of the form used for recording is available in Appendix A.

The collected data which came from the interviews and observations were then categorized using the basic style of classification employed by Flanagan (1954). The seven categories which were disclosed included: physical ability; perceptual ability, responsibility and effort, skill competency, especially with tools and equipment; sensitivity to others; team orientation; math ability.

Research associates were then asked to classify the behavior from the checklists into the seven categories. The seven categories were compared with categories which were obtained from inspection of the Occupational Assessment Inventory of Cunningham et al. (1983), and the Job Classification Inventory of Banks et al. (1983). The cross-comparisons provided an opportunity to see if the categories were also represented in the task inventories of other researchers. This was also a check on the interrater reliability which could be obtained with this type of process.

Subjects

The subjects of this study were 15 handicapped employees who were identified through employer response to a random sample of 1,000 employers in the state of Washington. The subjects, identified by handicapping condition and job, are as follows: five mentally retarded employees, four of whom were serving as janitors and one in food service; of the three orthopedically impaired employees, two of whom were in clerical positions and one serving as a personal care attendant. Of the three learning disabled employees, two of whom were food service workers and one employed as a janitor. three hearing impaired employees in

clerical positions, and the one epilepsy employee a metal shop worker.

All of the subjects were in competitive employment situations and were restricted in some way due to their handicap.

Results

The research question of interest concerned the relevance of restrictions placed on handicapped wo' ers, and whether the performance of handicapped workers difrers from that of nonhandicapped workers. The question was addressed primarily by use of the task checklists which contrasted the tasks of the handicapped worker and the nonhandicapped worker. The information provided by use of the checklist was supplemented by use of observations, recorded at regular intervals. Restrictions were analyzed in terms of the labeled handicapping condition, its relationship to other tasks completed by the handicapped person, and the impact on future career opportunities. The findings are presented in tabular form.

Table 7 presents information as to the relation of restrictions to other tasks completed.

Table 8 presents information about the impact of the restrictions on the future career opportunities of the handicapped person, as stated by the employer.

Discussion

The information gathered on these handicapped people indicates that handicapped people are generally only restricted because of their inability to do a task, not because of the mental image of their employer. Of the 15 handicapped persons, only the learning disabled who was employed doing janitorial work was being restricted from the performance of a task which was within the scope of other work completed. The other handicapped employees were given opportunities to do the job and were only restricted from those tasks which presented a safety hazard or were not within their capabilities. For example,the two handicappped individuals employed by Donald, owner of a small real estate investment company, are perceived as being assets to the company. Herb, a paraplegic, serves as the sales manager and Patrick, a mildly retarded person, as part time janitor. The main benefit resides in their commitment to the company, in fact, Herb will eventually become the president while Patrick, because of his training in the company, will move to a more challenging work site.

Observations confirmed that the handicapped persons were in fact doing the tasks specified, and doing them on the same level as their nonhandicapped peers. The observations also confirmed that there were differences in the work in so far as the handicapped persons did not do the tasks from which they were

restricted. George, employer of 34 persons in a self owned Pancake House, points to Henry, an employee of ten years as his "best and longest tenured worker." George noted that Henry is ill a little more often, works a bit more slowly than others, is restricted from the use of electrical equipment but blends into the work force well and is regarded by the non-retarded staff as a stable regular. Although he relies on his mother for transportation, Henry actually bought the new car she now drives.

In every case employers mentioned some deficits in social skills, but of the handicapped employees had sufficient social skills to get along with their fellow workers. This is in agreement with the findings of Bullis and Foss (1986), which indicated that the social skills are very important in being able to keep a job. Social skills do not necessarily guarantee that a person will keep a job, but a critical lack of social skills appears to be a factor in loss of employment. For instance, Rick, a mildly retarded youth employed by a janitorial service company, required work restrictions due to inability to drive. However, T.J., the manager, insists that Rick's real problem resides in his lack of social and communication skills. T.J. cited the recent occurance when Rick, in front of a customer, blew up at a the foreman for requesting him to complete an appropriately assigned task.

This study confirms that there are differences between the work expectations of handicapped and nonhandicapped workers. Those differences are based on the actual capabilities of the handicapped person, rather than arbitrary limits.

The limitations appear to go along with limitations in the promotion of the handicapped person. But promotion potential is not everything. For many of these workers the possibility of work of any kind is very satisfying. Employers have remarked repeatedly that their handicapped workers are very dedicated. Doris, a nursing home administrator with 55 employees, noted that while the general turnover rate for employees is two years, Jason has been at the home for ten years. Allegedly Jason loves his job and is willing to do anything asked of him. Although she was not responsible for his hire, Doris's experience with Jason's conscientiousness in serving the elderly and his reliability in the performance of his work makes her feel that in the future she would hire a mentally retarded person.

The handicapped work in a variety of setting with a variety of restrictions placed on their workload. The limitations are directly related to the handicap of the worker. The limitations cause some barrier to promotion, but the mutual acceptance of the limitations works in the best interest of the employer and the employee. The employer gets a devoted and stable, if restricted, worker. The employee has a job.

Assessment of Behavioral Performance of Handicapped Youth Using a Critical Incident Technique

The purpose of this phase of TROPHY research on employed handicapped youth was to evaluate the potential of the Critical Incident (CI) technique to facilitate prevocational training, personnel selection and job training of handicapped youth. The CI report technique has been used extensively in a wide range of applications to detail successes or attainments in programs and to identify the problems which may detract from program goals. The CI offers a systematic empirical approach related to the use of expert consensus (Remmers, 1963). To determine significant behavior, qualified observers or judges are asked for reports of incidents that were negatively effective or led to failure, and those that were positively effective or led to unusual success (Flanagan, 1949, 1973). Having acquired a number of such incidents from fellow workers, other trainees, job coaches and supervisors, certain inferences concerning the person can be drawn and specific arenas of training delineated.

Critique of the Available Instruments

The critical incident method of observation of workers was selected for the performance evaluation component of the study since of the findings of Levine, Ash and Bennett (1980), which indicated that this method is judged to be the most satisfactory for developing performance standards.

The critical incident method is based on the work of Flanagan (1954). Flanagan used a five-step process to disclose the incidents associated with success and the incidents associated with failure in a given situation. The method has been applied to success or failure in the classroom, various jobs, and social situations. The five-step process for developing the observation protocol involves surveying key people in the environment of interest. These key people report behaviors of the persons of interest. The behaviors are then identified as either associated with success or failure. The second stage involves grouping the critical behaviors into general categories and then conducting systematic observation in a sampling of the setting in question. In the third stage the focus is on the revision of the categories that were developed in the second stage. Such revision is based on information obtained in data collection. In the fourth stage a significant number of people are asked to use the classification system, rating a selection of behaviors as critical for success or failure, or noncritical. The fifth stage is the final tryout of the instrument. This process was used for data collection related to kitchen helpers and to janitorial workers. The specifics of the application of this method to food service workers is provided in the following paragraphs.

Ryans (1960) collected critical incidents in a school situation, both by informal interview in the early stages and by more formal and systematic procedures later. A major contribution of the study was a set of specific instructions for classifying the reported incidents. Nixon and Locke (1973) in discussing the CI as used in physical education decried the misunderstanding of the CI technique as a mere survey of opinion and the consequent elimination of the procedure in physical education research. The authors cite studies indicating that the technique, when properly used, permits effective feedback--a specific instructional tactic in helping learners.

One aspect of the criticism leveled against the use of the CI and other related instruments is centered on their non-quantitative aspects. As mentioned earlier, Palmer and McCormick (1961) suggested that an approach to human work could take at least two directions. The first includes an emphasis on the technological aspects of the job or what workers actually accomplish--a job-oriented view. The other direction views work in terms of what workers do such as visual or manual tasks--a more worker-oriented perspective. Palmer and McCormick (1961) in an attempt to move toward a more quantitative measure, presented a job activity check list representing the worker oriented perspective. They subjected the results of this data collection to factor analysis to identify a worker activity dimension of jobs. It is generally agreed that the distinction between job-oriented and worker-oriented perspectives is often blurred, simply presenting differences in emphasis. Palmer and McCormick's work, however, represents a move to quantify worker-oriented tasks.

Cunningham, Boese, Neeb and Pass (1983) developed a measure to evaluate the fitness of workers in training and on-the-job situations. The Occupational Analysis Inventory (OAI) represented an attempt to shift from a qualitative to a numeric level of description of tasks or jobs. The OAI typifies another factor analytic effort to derive a set of job descriptors with technological context and general applicability. The instrument has five major categories each with subtasks and cuts across two sets of factors: the first derived from job ratings, descriptive of concrete activities and conditions on the job, and the second set derived from ability ratings (human attribute requirements of jobs).

As noted earlier, Banks, Jackson, Stafford and Warr (1983) introduced a job analysis technique when they published the Job Components Inventory (JCI) in response to Britain's Manpower Service Commission (1980). This commission had argued for greater coordination between those responsible for vocational preparation of youth, hiring of job transferees, and retraining. The JCI purports to provide a practical instrument for use in gathering reliable quantitative information in order to form a basis for career guidance and broadly based training. The JCI contains five major categories: tools and equipment, perceptual

and physical requirements, mathematical requirements, communication, and decision making and responsibility. Each category consists of sub tasks or components and was administered to 100 job holders and supervisors. The easy-to-use instrument generates occupational components common to a wide range of jobs and could form the basis for preparatory or on-the-job training.

In 1984, Owen cited the pressure that first-line supervisors experience in finding or in training the right person for each position. Since there are no scientific formulas, the custom has been to compare the expectations for the position with the employee's actual or past performance. Although often used, this process is without the help or aid of any "ordered methodology that would accommodate different environments and the non-quantifiable elements that must be taken into consideration" (p. 14).

Owen suggested that a tool such as a profile analysis could fill the void. He began by establishing the definition of the work position by asking about the expectations for accomplishment? From expectations for the position, a list of essential knowledge and skills was derived and accompanied by an indicator of the level of knowledge or skill needed. A position profile was then be plotted.

The establishment of a person profile on the same set of knowledge and skills followed. Data were obtained from such sources as the job application, resume, interview and on the job observations and may be used to evaluate the individual's level of competencies on the needed knowledge and skills. A match between the position profile and the person profile can then be displayed graphically. When evaluating trainees, those knowledge and skill deficits could then be used as a guide to bring the person to an acceptable level through appropriate training, reassignment or other positive corrective action. A focus on the knowledge and skill strengths and deficits does not carry the negative personal connotations frequently experienced with personnel evaluations. According to Owen, "Weaknesses or strengths are seen only in relation to a position--not as an assessment of personal worth." Owen responded to the challenge for a technique that supplants the quantitative measures obtained with a qualitative observation tool that added a needed dimension to the evaluative process.

Application of the Critical Incidence Technique

However, in looking at the instruments cited, some very important nuances of the trainee's behaviors and of the job environment are not captured by any of the data-gathering processes. So as a first step, using the procedure of establishing categories and sub-tasks found in instruments such as the OAI (Cunningham et al., 1983) and the JCI (Banks et al., 1983), the TROPHY Project established checklists for four

occupations into which handicapped individuals are most often funneled: food service, clerical, personal attendant, and janitor. Each checklist was used to develop an observational protocol to be used as a guide for obtaining quantitative information on handicapped youth during on-the-job training.

The checklists of expected worker behaviors and the observation protocols were inspected and yielded seven discriminable categories. These included the areas of: physical abilities, perceptual abilities, responsibility and effort, knowledge competencies and skills relating to the use of tools and equipment, social awareness, team orientation, and arithmetic abilities. The reduction of the checklists to categories reflects considerable overlap with those of Banks et al. (1983) and Cunningham et al. (1983) and are in accord with the procedures suggested by Palmer and McCormick (1961). The Critical Incident technique posed by Flanagan (1949, 1973) and elaborated on by Ryans (1960) appeared to merit consideration for eliciting a more sensitive picture of the training scenario. The categories were used either as guides to on-site observations of critical incidents or as stimuli to assist job coaches to recall incidents that were reflective of the presence or absence of knowledges and skills in either the entire category or of major components of that category. See Figure 1.

At example of the use of the CI for on-site observation occured at a member hotel of a major chain employing handicapped persons. Dan, a trainee, was operating a mechanical blower to remove leaves and debris from walkways and appropriately moved aside to permit guests to walk by. He continued to work stopping only to exchange a greeting. Using the category list to analyze this particular incident it was noted that:

1. Dan was physically capable of carrying the equipment on his back.

2. He was familiar with the physical environment, i.e., the walkways and hallways to be cleaned.

3. He regarded the blower as his own personal equipment, and was familiar with the storage and maintenance requirement relating to it.

4. He was skilled in stopping and starting the small gasoline engine, to respond to oral instructions or questions from others.

5. He was socially aware of hotel guests coming from, or returning to their rooms and remained out of their way.

In these respects, Dan was just as competent, physically and socially, as any non-handicapped person might be in the same job setting. His grounds maintenance job did not require complex mental tasks, team orientation (Category 6) or arithmetic

abilities (Category 7). From the work segment (CI) observed, Dan was judged to be excellently suited to the physical and social demands of the job .

On a subsequent day, Dan, in his work clothes, stood on the hotel pool deck. He was heard to say, "Boy, do I like to watch those girls--but don't tell my boss!" As the reader might have suspected, he was talking to the head of housekeeping. This incident gave evidence that the trainee could profit from training in Category 5, specifically in the arena of judgment between behaviors appropriate for guests but inappropriate for employees. Another training goal that emerged from this observation was in the arena of time management (Category 2).

A second, and perhaps more important, use of the categories and of the subtasks comprising each was as a stimulus to job coaches and supervisors to recall incident that might be indicative of skills or knowledges of needed improvement. The job coach reported that Greg was "just about normal" and she recalled that each morning he obtained from a storage cupboard at least ten different items including a broom, bottles and cans of cleaners, a pail and cloths and organized these to move from one station to another. He moved through a sequence of vending machine areas and hallways employing the various cleaning applications as needed. Greg had a neat physical appearance, was socially polite, and had excellent conversational abilities. He appeared to enjoy the cleaning tasks and in many ways mirrored the demeanor of the hotel guests.

The job coach recalled that Greg was often seen in the cafeteria for long periods of time during the middle of the day. At 2:00 p.m. on Wednesday, the job coach noted that Greg was not in his work area. She located Greg in the cafeteria where he had begun chatting with the lunch crowd and stayed to interact with those coming in for a short afternoon break. When reminded, Greg quickly returned to work. The job coach recalled that Greg often failed to take a break or he overstayed his time. The job coach recognized the trainee's difficulty with time perception (Category 2). Noting the repetitive nature of such incidences and the good will of the trainee, plans to train toward a goal of greater clock awareness were formulated. One appropriate means to assist the job coach would be to employ some auditory feedback system to assist the trainer in locating and in giving immediate directives. and to provide a timing device for the handicapped youth who have poor time perception.

In summary then, the reports of critical incidents whether noted by supervisors, job coaches or management personnel of the handicapped often contain perspectives not easily obtainable in other formats. Even though the personnel policies relating to the training, supervision and management of the handicapped trainee may be well-defined, there will be situational, environmental, and personal factors that have not been anticipated, or that are not predictable from prior knowledge of

the trainee and job situation. The Critical Incident technique may well provide the training link between the person and position. Forms for possible use may be found in Appendix A.

Reflections

There are pros and cons pertaining to the deluge of oral and written communications that flood the desks of agencies, their personnel on site and the work place managers. Does the provision of Critical Incident reports add just one more paper to shuffle? Perhaps there are alternatives. When a problem incident occurs there may be a need for immediate and specns for state and federal reports. Rather than add another report form it may be feasible to derive specific data from the CI report and integrate it into the required forms.

Although the reports of Critical Incidents may have key values for identifying the success or failure bases of job training, they do not supplant systematic, periodic assessments needed to describe the typical performance of trainees.

Sources of Job Placements

The TROPHY project collected longitudinal data on 120 subjects. These subjects were assembled from a variety of sources. A few subjects were 1985 graduates of a suburban high school in the Puget Sound area of Washington (N = 7); others represented the 1985 leavers from the Honolulu School District (N = 36). A sample of 1985 leavers from the University of Washington Employment Training Program yielded a group of mildly and moderately retarded adults (N = 34). The Division of Vocational Rehabilitation (DVR) office in Fairbanks, Alaska cooperated in locating and interviewing orthopedically impaired adults (N = 12). Seattle Community College assisted in locating visually impaired adults who had completed a program for interpreters (N = 7). Additional subjects were identified through service agencies in the greater Seattle area.

Data were provided by the subject in a personal interview. Each subject was interviewed three times, once in 1986, once in 1987 and again in 1988. The interview results were recorded on a protocol. A portion of these data formed the basis for an earlier TROPHY publication entitled, "A Typology of Transition Based on a Synthesis of the Literature." The analyses of data on sources of job placement that follows use that data base.

During the interview the respondents were classified by disability codes used by the Washington State DVR. The subjects were distributed across 24 different codes. The DVR codes included finer distinctions than are typically used by the schools in classifying students. The number of cases in some

categories were small and required that combinations be used in these analyses.

A majority of the subjects were born with a handicapping condition (n = 84), but 11 became handicapped after reaching the age of high school completion. The following cross-tabulation (Table 8) displays the age of onset by handicapping condition.

The median age of the respondents was 23 years. Sixty-one of the respondents were female and 59 were male. These data are provided to give the reader an indication of the diversity of the respondents and to illustrate that, for most of them, there had been ample time since leaving high school to have experience in the labor market.

Types of Employment for This Sample

Table 9 displays the respondents by handicapping condition and employment status. The proportion of this sample which was employed at the time of the last interview (72%) is slightly higher other studies of the employment status of the handicapped. However, if those working in sheltered workshops are removed from the ranks of the employed, the percentage drops to 60% which is consistent with other studies.

Individuals searching for employment have a number of options available to assist them in their search. These options range from close friends and family to tax-supported agencies. The MR subjects in the TROPHY study were distributed across options for the one or more jobs they have held as shown in Table 10. The contrasting data, also shown in the table, came from a survey of high school youth in the State of Washington conducted under another contract.

When the distribution in Table 10 is tested for independence with Chi square the results X = 911.32, with 6 degrees of freedom, indicate that the distribution is not independent of the two samples. Inspection and the cell contribution show that the Mentally Retarded subjects in the TROPHY sample were much more likely to be placed on a job by a tax supported agency than were high school students from Washington State. Hasazi, Gordon, and Roe (1985) in their study of special education or resource classrrom students from Vermont found a job placement assistance distribution more in line with the Washington survey and definitely different from the placement assistance pattern displayed by the mentally retarded subjects in the TROPHY study.

Hasazi's et al. (1985) research was of sufficient significance and scope that it must be given credence. The study included subjects, 462 youths from 9 Vermont School Districts who exited over a specific time frame. Interviews conducted with 301 youths who were enrolled in special education or resource classrooms.

The youths were classified according to Vermont regulations for special education services and placed in special classes for the mentally retarded or resource room programs for the mildly handicapped, (LD, emotionally disturbed and mildly mentally retarded youth).

Individuals who were currently employed (N = 164), overall 84% of the working sample found their jobs through their self-family-friend network (rural = 94%, urban = 85%, and metropolitan = 68% as compared to "other" category).

Dr. Marilyn Cohen, in an earlier TROPHY publication entitled, "Five Transition Policy Studies including Pertinent Literature Synthesis" summarized the research literature on job placment assistance as follows.

Researchers Edgar and Levine (1985), Hasazi et al. (1985), Hasazi, Roe, Hull, Finck, and Salembier (1985) reported that many families are directly responsible for securing a job for their graduate. Schalock and Lilley (1986) found that level of family involvement related significantly to employment outcome for the graduates studies. The results of this study together with his other work, including Schalock et al. (1986), lead Schalock et al. (1986) to conclude:

> This finding is consistent with a growing body of literature indicating the significant influence of family support on both community integration and programmatic success, and suggests a critical need to involve the student's family in the job exploration training, and placement process. (p. 302)

The contradictions apparent between the data presented in Table 9 and the literature citations prompted the authors of this monograph to reanalyze the TROPHY data using 100 subjects, who were handicapped early in life, to bring the subject pool more in line with the data bases used in the literature cited. The sources of job placements exceeds the number of subjects because we used all the placements, which in somes cases equalled three. The results of this analysis are presented in Table 11.

From this analysis it is apparent that the subjects who were mentally handicapped exceeded the expected frequency for placement by governmental agencies and were below the expected frequency for placement assistance from parents, relatives friends, or on their own. The reverse was true for L.D. and any other handicapping conditions.

Edgar and Maddox (1983), made the case that if schools should be charged with making job placements as a criterion for graduation, it would require successful employment for some period of time. There is disagreement, however, among teachers, administrators and state agency personnel about whether schools should make job placements. Clearly, such a requirement would

be a radical departure from the traditional classroom model. Referral to jobs and agencies, securing parent involvement in transition planning, following students to make sure they retain employment--these are all areas that the schools are close to, but don't have a clear mission or mandate to manage. They then conclude that unfortunately, neither does anyone else have such a mandate.

While their argument has some merit, they are either very naive or uninformed. There are a number of tax-supported agencies that have as their mandate the placement of unemployed persons on jobs irrespective of personal attributes. The foremost among these agencies is the U.S. Employment Service, but DVR shares that mandate when there is a handicapping condition and there are numerous tax supported agencies and tax free agencies have posed themselves as placement agents for individuals with handicapping conditions.

Will (1984) stated that between 50 and 80% of the working age adults who report a disability are jobless. What happened then to the 60% placement rate of high school graduates with handicapping conditions? These authors would suggest that initial placement may be as high as reported, but continous employment eludes the handicapped.

Will continues that job placement appears to result from, (1) contacts through high school work experience, (2) post-secondary skills (more advanced employment options), (3) family contacts, (4) neighborhood networks, and (5) short-term volunteer jobs. These statements are consistent with the experiences of non-handicapped youth and with the data presented by Hasazi, but not with our data.

While Will maintains that the number of students making their own way from school to employment is unknown, there are numerous research reports that rate self-placement as one of the lesser sources of jobs.

OSERS suggests a three-tiered approach to successful labor market involvement of the handicapped. This approach would encompass:

A. Transition without special services
B. Time-limited services to gain entry into labor market
   (1) vocational rehabilitation
   (2) post-secondary vocational education
   (3) other job training programs
C. Transition with ongoing services
   (1) mental health
   (2) mental retardation
   (3) Public Welfare
   (4) vocational rehabilitation

Wehman et al. (1986) make a strong case for employment alternatives for persons with severe handicaps:

Adult activity centers and sheltered workshops. According to authors, these special day programs must come to an end because: (1) too many fiscal resources are used for buildings rather than staff; (2) people with severe handicaps are segregated away from the community; (3) emphasis is not on finding employment with decent pay in the community--in spite of the many successful programs demonstrated through research. The underlying assumption has been that clients are not "ready" and need much more training.

A supported work approach (with a job coach) to competitive employment emphasizes structured assistance in job placement and job site training. A job coach is readily accessible for individualized one-to-one training and follow-up.

OSERS contends that the job coach models with ongoing services should be incorporated in programs that provide transitions with ongoing services. TROPHY data on this subject is mixed. Stowitschek et al. (1988) agree, but Burgess and Zhu (1988) disagee. It may well be that the job coach model will work for the severely handicapped in sheltered settings or in enclaves, but will not work where the employee is subject to the pressures of ordinary job requirements.

The discussion above highlights another confounding element in analyzing sources of job placement assistance. For example, it is doubtful that anyone other than agency personnel would be responsible for placing an individual in a sheltered workshop or in a supportive work envirnoment. To inspect whether or not type of job was related to type of job placement assistance, the data presented in Table 12 was reformated into competitive and non-competitive job placements and the sources of placement assistance were collapsed so that parent, relatives, and friends are in one category of significant others.

Inspection of the distribution within the table shows that significant others are more likely to assist in placement on competitive jobs than they are to assist with placement on non-competitive jobs. This makes good sense since non-competitive jobs require agency approval. The reverse is true with agency placement assistance.

Discussion

Using data from the New Youth Cohort of the National Longitudinal Survey, Holzer (1987) reported that the unemployed job searchers use more job-seeking methods than employed searchers. The predominant methods used are friends/relatives (87%) and direct contact (69%), with state agencies (30%), newspapers (45%), and other methods (41%) used less frequently. From the same data base, Holzer found that the informal methods of job seeking was also the most productive in job placements and acceptance.

In another article, Holzer reported that Black unemployed youth had more difficulty using the informal methods of job search than their White cohorts.

According to Kjos (March, 1988), the resources used for job placement differed between networkers (higher level position) and unskilled workers. Unskilled workers relied on direct information sources, while the networkers used the assistance of friends/relatives and direct information.

Investigating the job-seeking behavior of 271 undergraduates, Latham (March, 1988) reported that 76% used classified ads, 72% focused on friends and relatives, 64% sent resumes, 56% analyzed skills and abilities, and 50% used summer job as a springboard.

For lower pay level work jobs hunters use state agencies three times more than private agencies (Lathrop (1977). According to Jackson (1978), guerrilla tactics in the job market were used because the placement services to focus on short term goals, few professional workers use the service. Researchers since the 60s have reported that youth have received job leads from friends and relatives. The first jobs taken were in close proximity to home. Lower SES youth had multiple disadvantages because they had fewer employed contacts to use for job placement and, in many instances, they had to conpete with older workers for the unskilled jobs that were available (Cook, 1968; Kaufman, Shaefer, Lewis, Stevens, & House, 1967; Singhell, 1966). Job-finding assistance from the schools was found to be related to enrollment in vocational education, but was also strongly related to I.Q. (Kaufman et al., 1967).

When all the information presented herein is considered together, the apparent contradiction with other literature becomes understandable. If data are presented which combine placement across all handicapping conditions with the usual prepondance of learning disabled subjects the results will be much the same as for the subjects classified as non-handicapped. It is apparent, however, that for the mentally retarded, assistance from tax-supported agencies and groups is essential for job placement, particularly for placement in sheltered workshops and subsidized or supportive work environments. Whether the sheltered workshops and other funded work stations lead to competitive job placement is yet to be analyzed.

TABLE 1

COMMUNICATION STRATEGY RETURN RATE

Strategy	Total Sent	Total Returned	Percent Returned
Employment Security Letter	150	59	39%
Phone and Employment Security Letter	306	143	46%
Phone, Employment Security Letter and TROPHY Letter	40	34	85%
Employment Security Letter and TROPHY Letter	504	212	42%
TOTAL	1,000	448	45%

TABLE 2

Return Results From Follow-Up Activities

Strategy	Initial Response	%	# Recontacted	Follow-Up Response	%	Total Response	%
Employment Security Letter	59	39%	0	0	0	59	39%
Phone and Employment Security Letter	143	46%	163	30	18%	173	56%
Phone and Employment Security and TROPHY Letter	34	85%	6	4	67%	38	95%
Employment Security and TROPHY Letter	212	42%	292	189	65%	401	79%
TOTAL	448	45%	552	223	40%	671	67

TABLE 3

Characteristics of Responding Employers According to Geographic Location and Size

Geographic	Number in Sample	Size of Employers*			
		Large	Medium	Small	Total
Consolidated Area	525	24	67	287	378
Metro Area	270	3	34	147	184
City Area	3	0	0	2	2
Rural Area	170	10	13	84	107
TOTAL	978**	37	114	520	671

*Large < 100 employees, medium 25-99 employees, small > employees.

**Incomplete information on 32 employers; unable to classify.

TABLE 4

Characteristics of Responding Employers According to Type of Industry and Size

Type of Industry	Employer Size*			
	Large	Medium	Small	Total
Agriculture	4	4	34	42
Construction	2	10	41	53
Manufacturing	7	10	55	72
Transportation	2	6	14	22
Sales	5	32	189	226
Finance	3	13	31	47
Services	13	23	162	198
Public Administration	0	1	10	11
TOTAL	46	99	536	671

*Large < 100 employees, medium 25-99 employees, small > employees.

TABLE 5

Employers of Handicapped Individuals According to Size and Type of Industry

Type of Industry	Employer Size*			
	Large	Medium	Small	Total
Agriculture	1	1	2	4
Construction	0	1	2	3
Manufacturing	5	0	1	6
Transportation	1	1	2	4
Sales	0	2	13	15
Finance	1	2	1	4
Services	5	9	11	25
Public Administration	0	1	2	3
TOTAL	13	17	34	64

*Large < 100 employees, medium 25-99 employees, small > 25 employees.

TABLE 6

Employers of Handicapped Individuals According to Size and Geographic Location

Geographic Location	Number in Sample	Size of Employer*			
		Large	Medium	Small	Total
Consolidated Area	525	9	11	22	42
Metro Area	270	1	5	7	13
City Area	3	0	0	0	0
Rural Area	170	3	1	5	9
TOTAL	968**	13	17	34	64

*Large < 100 employees, medium 25-99 employees, small > 25 employees.

**Incomplete information on 32 employers; unable to classify.

TABLE 7

RESTRICTIONS OF HANDICAPPED EMPLOYEES

Handicapping Condition	Job	Restriction
Mental retardation	Janitor Maintenance	-Continuous Supervision
" "		-No use of cleaning solutions
		-No replace light bulbs
		-No use of vacuum
		-Does not wax floor
		-Does not wax furniture
		-No unsupervised repairs
Mental retardation	Janitor	-No changing light bulbs
		-Continuous supervision
		-No work around clients
Mental retardation	Food Service	-No use of slicer
		-work least busy shift
Orthopedically Impaired	Personal Care Attendant	-More frequent breaks
		-Weight lift restricted
Orthopedically Impaired	Clerical	-type less
		-no weight lifting
		-no reaching, feeling
		-no public contact
Orthopedically Impaired	Clerical	-type less
		-no errands by foot
		-no weight lifting
Learning Disabled	Food Service	-nonrush shift
" "	Food Service	-not take dietary orders
		-no phone messages
		-no weigh ingredients
		-no dishwasher maint.
Learning Disabled	Janitor	-no change light bulbs
		-no spot clean furniture
		-does not wax floors
Hearing Impaired	Clerical	-no telephone work
" "	"	-no telephone work
" "	"	-limited telephone work
Epilepsy	Metal Shop Worker	-no use saw

TABLE 8

HANDICAPPING CONDITION BY AGE OF ONSET

	Age at Onset				
Hdcp. Cond.	At Birth	1-10 Yrs	11-20 Yrs	Over 21	Totals
Visually Impaired	4	2	1	4	12
Hearing Impaired	9	3	0	0	13
Cerebral Palsy	3	0	0	0	3
Orthoped. Impaired	6	1	3	4	15
Learning Disabled	15	0	5	0	25
Mentally Retarded	37	0	0	0	43
Epileptic	1	0	2	1	5
Emotional Disturbed	1	0	2	1	4
Totals	84	10	15	11	120

TABLE 9

HANDICAPPING CONDITION BY TYPES OF CURRENT EMPLOYMENT

Hdcp. Cond.	Comp	Subsd	Supp	Shltrd	Unemp	Totals
Visually Impaired	8	1	0	2	1	12
Hearing Impaired	8	0	0	0	5	13
Cerebral Palsy	0	2	0	0	1	3
Orthoped Impaired	2	1	0	5	7	15
Learning Impaired	18	1	0	0	6	25
Mentally Retarded	18	2	4	7	11	42
Epileptic	5	1	0	0	0	6
Emotional Disturbed	1	0	0	0	3	4
Total	60	8	4	14	34	120

TABLE 10

SOURCES OF JOB PLACEMENT ASSISTANCE

	TROPHY MR SUBJECTS	WASHINGTON SURVEY	TOTALS
FRIEND	O= 3 E=20.6 X=15	626 608.4 .5	629
RELATIVE	O= 2 E=11.2 X= 7.6	340 330.8 .3	342
PARENTS	O= 3 E=11.3 X= 6.1	342 333.7 .2	345
SCHOOL	O=19 E= 5.7 X=31	155 168.3 1.1	174
GOV. AGENCY	O=41 E= 1.9 X=805	18 57.1 26.8	59
NEWSPAPER/ADS	O= 2 E=2.2 X= .02	65 64.8 .0	67
SELF	O= 5 E= 22.03 X= 13.2	667 649.97 4.5	672
TOTALS	75	2213	2288

TABLE 11

SOURCES OF JOB PLACEMENT ASSISTANCE
HANDICAPPING CONDITION

		M.R.	L.D.	OTHER	TOTAL
Friend	O =	5	8	16	29
	E =	10.7	5.5	12.8	
	X =	3.0	1.1	.8	
Relative	O =	2	4	2	8
	E =	2.9	1.5	3.6	
	X =	.3	4.2	.7	
Parents	O =	3	6	9	18
	E =	6.6	3.1	8.0	
	X =	2.0	2.0	.1	
School	O =	13	12	12	37
	E =	13.6	7.0	16.4	
	X =	0.0	3.6	1.2	
Agency	O =	45	4	27	76
	E =	27.9	14.5	33.6	
	X =	10.5	7.6	1.3	
Ads	O =	4	5	5	14
	E =	5.1	2.7	6.2	
	X =	.2	2.0	.2	
Self	O =	5	2	24	31
	E =	11.4	5.9	13.7	
	X =	3.6	3.6	9.3	
Totals		79	41	95	215

X = 56.3, DF = 12, P < .01.

TABLE 12

SOURCES OF JOB PLACEMENT ASSISTANCE
BY TYPE OF JOB

		Comp.	Non-comp.	Total
Sign. Others	O =	43	8	51
	E =	34.6	16.4	
	X =	2.0	4.3	
School	O =	28	18	46
	E =	31.2	14.8	
	X =	.3	.7	
Agency	O =	38	34	72
	E =	48.9	23.1	
	X =	2.4	5.1	
Ads	O =	11	3	14
	E =	9.5	4.5	
	X =	.1	.5	
Self	O =	26	6	32
	E =	21.7	10.3	
	X =	.9	1.8	
Totals		146	69	215

X = 18.1, DF=4, P < .01

TABLE 13

IMPACT OF TASK RESTRICTIONS

Handicapping Condition	Restriction	Impact
Mentally Retarded	Continuous Supervision	No promotion
" "	Cleaning Tasks Restrict	No promotion
" "	Continuous Supervision, no light bulbs changes, no work around clients	Limit hours of work, no promotion
Mentally Retarded	No use food slicer, work least busy shift	No promotion, work only nights
Mentally Retarded	Continuous Supervision	No promotion
Orthopedically Impaired	More frequent breaks, weight lift limit	No effect
Orthopedically Impaired	Type less, no public contact	Promotion limit
Orthopedically Impaired	Type less, no errands	Promotion limit
Learning Disabled	Nonrush hour shift	Less tips, more limited schedule
Learning Disabled	No telephone orders, no dietary orders, no weighing ingredients	No promotion
Learning Diabled	No change light bulbs, cleaning restrictions	No promotion
Hearing Impaired (3)	No telephone Work	Promotion limit
Epilepsy	No use of saw	No impact

TABLE 14

TASKS OF HANDICAPPED WORKERS

Handicapping Condition	Task Restriction	Similar Task Completed
Mentally Retarded	See Table 1	No comparable tasks
Orthopedically Impaired	See Table 1	No comparable tasks
Learning Disabled	-No change lights -No spot cleaning -No wax floors	-Stocks supply cart -Does clean mirrors -Does dry mop floors -Does vacuum daily
Hearing Impaired	See Table 1	No comparable tasks
Epilepsy	See Table 1	No comparable tasks

EMPLOYER PERSPECTIVES AND HANDICAPPED EMPLOYEES EXPERIENCES: AN EMPIRICAL ANALYSIS

by

William John Schill, Rosemarie McCartin,
and Karen A. Matthews

A career, so aptly defined by Super, is "the sequence of occupations, jobs and positions occupied during the course of a person's working life" (1969, p. 3). The word "career" has a broader connotation than the words "job" or "occupation" and is derived from the French word for racecourse hinting at the course of the person's work life. In fact, Santilli and Furth (1987) have analyzed adolescents' explanations of work, career, and occupation. Most young persons focused on the contractual nature of work as a task to fulfill or something you do for a living. Santilli and Furth found evidence for age or stage differences for the employment terms and these differences supported previous research demonstrating the transformation of work perception from fantasy-based notions of work typical of childhood to reality-based notions of adult employment. This developmental approach to career patterns addresses the evolutionary nature of adulthood--development is progressive and sequential.

Super (1953) exemplified the psychological aspect of career development in that he defined stages as age-related periods in which developmental tasks lead to vocational maturity. The stage of Growth (birth to 14) stresses orientation to the world of work and is followed by the Exploratory period (15-24) characterized by role try-outs, occupational explorations, part-time work and first job in a selected occupation. The Establishment stage (25-44) in which the securement of a place in a chosen occupation occurs, yields to the Maintenance (45-64) or the preservation of achieved status gains during which the person consolidates the occupational position attained. A Decline stage (65-and on) ushers in a gradual cessation of work activity. Super (1953) career theory was consistent with, but expanded upon, that articulated by Ginzberg (1951) who proposed three periods of vocational development: the fantasy period (before age 11) , the tentative choice period (11 to 17) and the realistic-choice period (17 and beyond).

Super's career patterns contain useful concepts (Harrington, 1982) as do Ginzberg's, but both theories assume career stability and appear woefully dated and sexist when viewed in light of current cultural norms. This criticism of theories as maintaining the status quo and of sexism continues to be leveled against more current theories (Fitzgerald & Betz, 1984).

Tiedemen and O'Hara (1963) perceived career development as a systematic problem-solving process that engages the individual in matching self-qualities with the work situation. They posit four

major stages including: Exploration, Crystallization, Choice and Commitment. The general developmental theorists then, suggest that career development parallels the life stages of early adulthood (ages 16-25 to 35-40), middle adulthood (ages 35-40 to 60-70), and late adulthood (ages 60-70 and above) (Crites, 1979).

The sociological aspect of career theory addressses career patterns in terms of social structure variables and the work of Blau, Gustad, Jessor, Parnes and Wilcox (1956) so exemplifies. The authors present a synthesis of the effects of social institutions on career choice and development, i.e., career development is a continuous process much affected by a social structure that encompasses patterns of activities, aspirations of various social groups and situational conditions.

Following Blau et al. (1956), Miller and Form (1964) emphasized the influence of sociological variables on career patterns that occur after the initial choices of an occupation.

The degree of stability a worker achieves is affected by changing occupational status but more importantly by the changes in the economy.

Miller and Leonard (1974) suggest that career development theory provides a useful framework for understanding the career development of all people. However, while disadvantaged youth have needs similar to others, they do have specific career development needs due to early experiences that merit special attention. The same point may be made with reference to handicapped youth.

Though not substantiated by research, the element of chance in career choice should be noted. Seligman (1981) speaks to the chance meetings and occurrences that influence one's career and direction. In order for chance or luck to play a prominent role in career development, an awareness of the possible link between the two is probably necessary.

Moore (1969) suggests that one element of chance in the development of careers is "the occurrence of unusually influential teachers or perhaps of critical events that open or close opportunities" (p. 872). In fact, Moore likens the education system to a succession of ladders, becoming more differentiated at higher levels. The school becomes both a sorter and a socializing agency that treats occupational careers unevenly in that it attends directly to preparation for occupations dealing with intellectual content and only indirectly with careers dealing with people and things skills.

The youth in the study, recent school graduates, fit most appropriately in the trial or exploratory stage. During this stage, reflection upon and experimentation with one's aspirations are the norm. These youth, according to Levinson (1978), experience a more lengthy and complex process of entering

adulthood than has been the lot of their elder . Levinson believes it may take about fifteen years to emerge from adolescence--to find a place in the work world.

Although the concept of a stage of career exploration emerged as early as the 1950s (Ginzberg, 1951; Super, 1953), it generated relatively little research of an empirical nature (Vondracek, 1982). In speaking of the opportunities for exploration, Moore (1969) speculates that for the vast majority of young people moving towards an occupation this process consists of ". . . a complex mixture of narrowing the range of choices (or having them narrowed by poor educational performance); exploration of alternatives by use of information, misinformation, and sheer fantasy; and considerable components of sheer chance" p. 872).

The young person in the period of exploration is often forced with the situation of having to make a choice of life's work without much actual experience with the world of work (Havinghurst & Gotlied, 1975) in addition to other limitations forced upon the freedom of occupational choice. The influences that dictate, in some sense, the breadth of exploration include those of family-of-origin, high school performance, experience with part-time jobs, the peer-system and community resources, economic resources, economic systems that constricts or increase opportunities, ethnic and cultural heritage, sex, and social class (Okun, 1984).

Brim (1966), in addressing another issue of relevance to the stage of exploration, speaks of training and post-training periods, stating that because of the the wide variety of occupational choices that are possible, there is little opportunity for preparing a young person for a specific occupational role during childhood and adolescence. Most jobs require a period of training for the fledgling employee. The training period may vary from a few weeks, in the case of an assembly line worker, to ten years, in the case of a physician. For some people the stage of young adulthood is passed before the training experience is completed. The training period, in addition to transmitting information about specific skills, is often concerned with the socialization of the individual. This socialization requires the acquisition of technical skills, interpersonal behaviors, and authority relations that are valued by the occupational work group and necessary to one's successful work within that group. The training period may also acquaint the novice with the specific demands and vulnerabilities that a particular occupation poses.

Okun (1984) sagely observes, ". . . we can conclude that career development today is not necessarily an orderly progression of sequenced events. Changes often occur faster than can be predicted or fully appreciated, and individuals must continually reassess the meaning work holds for them. Thus, no single universal meaning of work exists in our society--for some work is an end in itself, and for others it is a means to an end" (p. 143).

Nearly three decades ago, Wilensky (1961) found in his sample of urban workers only a minority who had experienced a stable career, either by remaining in an occupation or moving through a sensible sequence of occupations. Moore (1969) notes that some discontinuities arise from the problems of the labor market, but often they arise form the voluntary actions of workers, "since trial and error in the honorable quest for improved opportunities is intrinsic to an open and mobile system. Just as in the educational process, both accident and choice are likely to figure in changing occupations" (p. 874).

Some years later, Mussen, Conger, Kagan and Geiwitz (1979) noted that 20-40 percent of workers change jobs each year and these figures do not include changes within a factory or organization. The average person can be expected to have at least six or seven different jobs during a lifetime.

If the adolescent and youth find the period of exploration and career choice a problematic one, how much more difficult it is for the handicapped person. In an earlier monograph on Employers of the Handicapped (TROPHY), the most troublesome area appeared to be the lack of social skills of one group--the retarded person. The deficits noted in those already in the labor force are especially well documented in two studies (Greenspan & Shoultz, 1981; Cheney & Foss, 1984). Greenspan and Shoultz sought the primary reason for the involuntary termination from competitive employment of 30 mildly retarded individuals. The results indicate a relationship between social incompetence and work failure. It appears that inept behavior, defined of social awareness, rather than angry behavior (problems of character) best explains the job failures of half of the unsuccessfully employed workers who lost jobs because of unacceptable interpersonal behavior.

A high rate of maladjustment occurs in low-I.Q. individuals due in part to brain damage or low self-esteem, but also to those environmental and familial influences that affect us all. Current researchers argue that some maladaptive behavior of mentally retarded individuals can be attributed to deficits in the ability to understand the social world. Greenspan and Shoultz (1981) note that not all low-I.Q. individuals tend to have low social awareness--many of them do not. From an intervention perspective the low-I.Q. individuals may reach levels of social awareness approaching average-I.Q. individuals were the recipients of street and work experience, a supportive family environment, and placement in mainstream educational and community settings. The authors reminded the reader that job failure is not restricted to mentally retarded individuals. The literature suggests that the distribution of reasons for job failure in the handicapped world is not all that different from failure in nonhandicapped individuals.

Cheney and Foss (1984) identified from their examination of the social behavior in problematic situations of mentally retarded

workers three major areas of concern in the social-interpersonal functioning of mentally retarded workers. The first area is categorized as criticism/correction or the workers interactions with supervisors. In 60 of the 71 cases of criticism/corrections, task or work habit errors on the part of the worker were responsible. Problems with co-workers and disruptive/distraction behavior constitute the other areas.

The authors' intent was to identify problematic situations in order to develop assessment and training materials. They observed that the problematic interpersonal situations which cause the mentally retarded workers difficulty were not always of their own making. The handicapped need to develop strategies for preventing or resolving problematic situations in the work place. Absence of these strategies has led to job termination and subsequent unemployment.

Classic examples of the paucity of a theoretical base for the analysis of the employment careers of the handicapped include publications by Edgar which merely report the current labor force status with no search for correlates and no synthesis of data. This may be justified in that the sample in Edgar's case was biased, the returnees were self-selected and the specification of current employment lacked detail. Wisconsin published the results of a nationwide survey of employed handicapped that was a collection of abbreviated resumes, again with no analysis and in this case no conclusions.

Assessment of Careers

For the subjects interviewed, each segment of their labor force experience was recorded as being either in (1) a competitive job, (2) a make work job such as a sheltered workshop, subsidized job or a job with supportive environment, if they were employed. The unemployed periods were noted as were times spend in the common schools prior to joining the labor force or in postsecondary schools prior to or as a period when they elected to remove themselves from the labor force.

Hourly pay rates tell a lot about labor force status. For example, there are sheltered workshop stations which involve productive activity and pay minimum wage or above. There are also sheltered workshop stations which pay as little as 10 cents an hour because there is little or nothing for the subjects to do.

In this study the number of months each experience lasted was recorded and the hourly rate of pay was recorded for competitive jobs. Applying career development theory would place all the subjects in the trial or establishment phases of their career. The career patterns of the subjects in this study were categorized from TYPE I, those with no labor force experience through TYPE 7, those with considerable labor force experience, all of which was in competitive employment.

TYPE I

One group of handicapped individuals reach the age of 22 to 25 with no labor force experience in that they go directly from school to unemployment. Five of the six handicapping conditions in this study have subjects that fit this pattern. The exception is the visually impaired.

The mean age for the subjects who fit TYPE I was 20.6 years and the mean length of time that they were unemployed was 32.3 months.

TYPE II

A group with equally non-existent labor force experience had some postsecondary school training intermittent with unemployment. Only the mentally retarded and hearing impaired were represented in Type II. They averaged 24.2 years of age, had an average of 56.75 months of unemployment, and had spent an average 15.5 months in postsecondary schooling. Despite their postsecondary training they were never able to gain employment of any kind.

TYPE III

Some of the subject had what may be considered minor labor force experience in that they spent some of their post-high school time in a sheltered workshop or others forms of subsidized work experience, but never made the transition to competitive employment.

Five of the six handicapping conditions were represented in TYPE III, hearing impaired was not. The mean age for the subjects was 24.8 years, the average length of time spent in subsidized work experience was 33.5 months, and the average length of time in post secondary training was 4.9 months. The remainder of their time was spent being unemployed with a mean of 11.2 months.

TYPE IV

Some of the subject seemed to have made the transition from sheltered workshops or subsidized work experience to competitive work only to revert to subsidized work or unemployment. This type points up the hazard of gauging transition upon the basis of one point in time such as has been done by others such as Edgar.

The majority of subjects that fell into TYPE IV were mentally retarded, but the visually impaired and epileptic were also represented. The mean age was 27. Their post-high school experience included 21.4 months of subsidized work experience, 27.7 months of unemployment, 10.7 months of competitive work experience and 9.7 months of postseconday training.

TYPE V

This career pattern represents a modicum of success for the combination of schooling and subsidized work experience in that the subjects that fell into this category are currently competitively employed and have been for several months.

Four of the six handicapping conditions are represented. Those not included were cerebral palsy and the learning disabled. The mean age for this group was 26.5 years with an average of 53.1 months of competitive employment. They had spent and average of 13.8 month of subsidized work experience and had 6.5 months of postsecondary schooling. On the average these subjects had been out of high school for eight years and during that time were unemployed for only 3.4 months.

TYPE VI

The career patterns represented by this TYPE approaches success. Their labor force experience consists of competitive employment interrupted by periods of unemployment and in some instances by attendance in postsecondary training. The detraction from success is that they experienced more months of unemployment than employment.

Individuals who were hearing impaired or mentally retarded ended up in this category. They had held competitive jobs for an average of 10.3 months and had been unemployed for an average of 55.2 months. The average number of months they had attended post-secondary training was 7.2 months. Their mean age at the time these data were collected was 26.7 years.

TYPE VII

Those subject that reside in this category are the most successful of the various types. They had experienced competitive employment and in some instances unemployment, but the major portion of their labor force experience was in competitive employment. In some instances postsecondary training was interspersed.

More individuals who had been classified as specific learning disabled were in this category than all other handicapping conditions combined. This may well be because of the lack of specificity for this handicapping condition or that it is a school-defined condition that does not carry over to the work a day world.

The average age of the subjects categorized as TYPE VII was 24.3 years. They had worked at competitive jobs for an average of 34.2 months, been unemployed an average of 5.37 months. Their post-secondary school experience averaged 4.5 months.

Discussion of Career Patterns

The trial and establishment phases of career patterns proposed by Super and Ginsberg do not seem to hold for handicapped youth. If they did the subjects in TYPE VII would be older than the subjects in the other career types and they are not. Further, the fact that the majority of the learning disabled are in TYPE VII would suggest that few of the subjects in other disabling categories ever achieve a career situation where the portion of their time in competitive employment exceeds their time in unemployed status.

It may well be that the trial period for these subjects is extended in comparison with the subjects that Super and Ginsberg discuss. Had this project continued for the five years, as planned, it may have been possible to test such a hypothesis.

It is not surprising that the more time an individual has spent is subsidized employment (including sheltered workshops) the less time they have been competitively employed. There are only a finite number of months to spend. It is encouraging that there is a group of subjects that experienced these make work situations and ended with a preponderance of their time in competitive work.

Post-secondary training, which ranges from program to prepare individuals to access local public transportation to bona fide higher education seems to have little, if any, impact upon the labor force careers of the subjects in this study. The group, TYPE II, with the second highest number of months of post-secondary training had no competitive work experience. The reader is cautioned that if the subjects were currently enrolled in an institution of higher education they were eliminated from this analysis on the supposition that they were not in the labor market. Interestingly all of those subjects were hearing impaired high school graduates that were enrolled at Gallaudet.

The statistical relationships among employment status and personal, familial, school, and social variables were tested and presented in an earlier monograph entitled, "A Typology of Transition Based on a Synthesis of the Literature." Readers are encouraged to combine the information in that monograph with the information presented herein before forming conclusions.

TABLE 1

SUMMARY OF LABOR FORCE EXPERIENCES BY CAREER TYPES

	TYPE						
	1	2	3	4	5	6	7
Average Age	20.6	24.2	24.8	27.0	26.5	26.7	24.3
Average Months Unemployed	32.3	56.7	11.2	27.7	3.4	55.2	5.4
Average Months Competitively Employed	0	0	0	10.7	53.1	10.3	34.2
Average Months Subsidized Employment	0	0	33.5	21.4	13.8	0	0
Average Months of Postsecondary Training	0	15.5	4.9	21.4	6.5	7.2	4.5

FIGURE 1

MAJOR CATEGORIES AND COMPONENTS

1. Physical Abilities

   Strength, mobility and agility, endurance.

2. Perceptual Abilities

   Visual discrimination, form perception, and the ability to visualize 2-dimensional and 3-dimensional space, e.g. relating to the storage or transport of materials.

3. Responsibility and Effort

   Verbal intelligence, listening comprehension judgment, vocabulary skills, written expression, tandem sequencing, planning, organization, and integration skills.

4. Knowledge Competencies and Skills re: use of tools and equipment

   Knowledge retention, perceptual speed and motor skills.

5. Social Awareness

   Social cognition (social comprehension or understanding), oral experession, analysis and interpretation of social situations.

6. Team Orientation

   Cooperation, team experiences and knowledge of part-to-whole relationships among job performances.

7. Arithmetic Abilities

   Numerical associations, quantitative relationships of measures and amounts.

APPENDIX A

Critical Incident Form 1
Report of Success, Accomplishment or Improvement

Setting:_____ Time of day: A.M.[ ] P.M.[ ]
e.g. building, grounds, patron, guest area

Briefly describe the actions, events, and persons involved:____
_____
_____
_____
_____

How was this incident a success, accomplishment or improvement?
_____
_____

Which of the trainee's traits or abilities were involved in this success?

1. Physical Abilities: strength [ ], mobility [ ], agility [ ]

2. Perceptual Abilities: visual discrim [ ], form perception [ ] space perception [ ], relating to storage [ ], transport of materials [ ]

3. Responsibility and Effort: knowing task [ ], planning [ ], organizing [ ], integrating [ ], tandem sequencing [ ], verbal skills [ ]

4. Competencies relating to tools: equipment [ ], knowledge retention [ ], use efficiency [ ], coordination [ ], manual skills [ ]

5. Social Awareness: social understanding [ ], oral expression [ ], analysis of situation [ ], interpretation of social situation [ ]

6. Team Orientation: cooperation [ ], knowing self' and others' work roles [ ]

7. Arithmetic Ability: computations [ ], quantitative measures [ ], amounts [ ], ratios and proportions [ ]

8. Other:_____

Identify any specific work/environment situation chat facilitated this success, accomplishment or improvement:_____
_____

Date:_____ Reported by:_____
(check one) job coach [ ], supervisor [ ], manager [ ], other employee [ ]

Critical Incident Form 2
Report of Problem or Difficulty

Setting:_____ Time of day: A.M.[ ] P.M.[ ]
e.g. building, grounds, patron, guest area

Briefly describe the actions, events, and persons involved in the problem incident:_____

_____

Why was this a problem?_____

_____

Indicate any of the trainee's traits or disabilities related to this problem:

1. Lack of Physical Abilities: strength [ ], mobility [ ], agility [ ]

2. Lack of Perceptual Abilities: visual discrim [ ], form perception [ ], space perception [ ], relating to storage [ ], transport of materials [ ]

3. Lack of Responsibility and Effort: knowing task [ ], planning [ ], organizing [ ], integrating [ ], tandem sequencing [ ], verbal skills [ ]

4. Lack of Competencies relating to tools: equipment [ ], knowledge retention [ ], use efficiency [ ], coordination [ ], manual skills [ ]

5. Lack of Social Awareness: social understanding [ ], oral expression [ ], analysis of situation [ ], interpretation of social situation [ ]

6. Lack of Team Orientation: cooperation [ ], knowing self and others' work roles [ ]

7. Lack of Arithmetic Ability: computations [ ], quantitative measures [ ], amounts [ ], ratios and proportions [ ]

8. Other:_____

Indicate any specific work/environment situation related to this problem or difficulty:_____

What can or should be done to avoid this problem or difficulty?

_____

Date:_____ Reported by:_____
(check one) job coach [ ], supervisor [ ], manager [ ], other employee [ ]

ISIAH TURNER
Commissioner

STATE OF WASHINGTON

EMPLOYMENT SECURITY DEPARTMENT

Olympia, Washington 98504

The University of Washington is embarking on a five-year study of the problems handicapped youth encounter in the process of making the transition from school to work and independent living.

As part of that study, a random sample of employers was selected by the Employment Security Department to represent all Washington State employers.

The University would like you to complete the enclosed, self-addressed postcard and deposit it in the mail. Participation is, of course, totally voluntary.

Thank you for your cooperation.

Sincerely,

ISIAH TURNER
Commissioner

IT:mh

Enclosure

SELECTED BIBLIOGRAPHY

Alper, S. (1981). Utilizing community jobs in developing vocational curricula for severely handicapped youth. Education and Training of the Mentally Retarded, 16(3), 217-221.

Alper, S. (1985). Comparing employer and teacher identified entry-level job requisites of service occupations. Education and Training of the Mentally Retarded, 28(1), 89-96.

Azrin, N. H., & Philip, R. A. (1979). The Job Club Method for the job handicapped: A comparative outcome study. Rehabilitation Counseling Bulletin, 23(2), 144-155.

Banks, M. H., Jackson, P. R., Stafford, E. M., & Warr, P. B. (1983). The job components inventory and the analysis of jobs requiring limited skill. Personnel Psychology, 36.

Bellamy, G. T., Rose, H., Wilson, D .J., & Clarke, J. (1982). Strategies for vocational preparation. In B. Wilcox & G .T. Bellamy (Eds.), Design of high school programs for severely handicapped students (pp. 139-152). Baltimore, MD: Paul H. Brookes.

Benson, H. A., & Turnbull, A. P. (1986). Approaching families from an individualized perspective. In R. H. Horner, L. H. Meyer, & H.D.B. Fredericks (Eds.), Education of learners with severe handicaps: Exemplary service strategies (pp. 127-157). Baltimore: Paul H. Brookes.

Benz, M. R., & Halpern, A. S. (1987). Transition services for secondary students with mild disabilities: A statewide perspective. Exceptional Children, 53, 507-514.

Blackwell, S. G., Dial, J. G., Chan, F., & McCollum, P. S. Disriminating functional levels of independent living: A neuro-psychological evaluation of mentally retarded adults. Rehabilitation counseling Bulletin,19, 113-116.

Blau, P. M., Gustad, J. W., Jessor, R., Parnes, H. S., & Wilcox R. S. (1956). Occupational choice: A conceptual framework. Industrial Labor Relations Review, 9, 531-543.

Bolton, B., Rowland, P., Brookings, J., Cook, D., Taperek, P., & Short, H. (1980). Twelve years later: The vocational and psychosocial adjustment of former rehabilitation clients. Journal of Applied Rehabilitation Counseling, 2(3), 113-123.

Bordieri, J. E. & Comninei, M. E. (1987). Competitive Employment for workers with Disabilities: An International Perspective. Journal of Rehabilitation, (3), 51-57.

Bourbeau, P. E., Sowers, J., & Close, D. W. (1986). An experimental analysis of generalization of banking skills from classroom to bank settings in the community. Education and Training of the Mentally Retarded, 21, 98-106.

Boyd, W. E. (1988). An investigation of the possible relationship between employment of in-school youth and their school performance and attitude toward school. Unpublished dissertation, University of Washington, Seattle.

Bowe, F. (1983). Demography and disability. Hot Springs, AK: Arkansas Rehabilitation Research & Training Center.

Bowe, F. (1984). Accommodation circa 2,000. American Rehabilitation, 10(2), 3-4, 8.

Bowe, F. (1984). Micros and special education: Opening new worlds for the disabled. Popular Computing, 3(13), 121-123, 126-128.

Bowe, F. (1984). U.S. Census and disabled adults. (Based on data from 1980 Census--People 16-64 self-reported disability). Fayetteville: University of Arkansas, Arkansas Rehabilitation and Training Center.

Bowe, F. (1985). Black adults with disabilities: A statistical report drawn from census bureau data. Washington, DC: U.S. Government Printing Office.

Bowe, F. (1985). Disabled adults of Hispanic origin. Washington, DC: U.S. Government Printing Office.

Bowe, F. (1985). Disabled women in America. A statistical report drawn from census bureau data. Washington, DC: U.S. Government Printing Office.

Brickey, M., & Campbell, K. (1981). Fast food employment for moderately and mildly mentally retarded adults: The McDonald's Project. Mental Retardation, 19, 113-116.

Brim, O. (1966). Socialization through the life cycle. In O. G. Brim & S. Wheeler (Eds.), Socialization after childhood: Two essays. New York: Wiley.

Brimer, R. W., & Rouse, S. T. (1978). Post-school adjustment: A follow-up of a cooperative program for the educable mentally retarded. Journal of Special Educators of the Mentally Retarded, 14, 131-137.

Brinker, R. (1985). Curricula without recipes: A challenge to teachers and a promise to severely mentally retarded students. In D. Bricker & J. Fuller (Eds.), Severe mental retardation from theory to practice. Division on Mental

Retardation, Council for Exceptional Children. Lancaster, PA: Lancaster Press.

Browder, P. M. (1987). Transition services for early adult age individuals with mild mental retardation. In R. N. Ianasone and R. A. Stodden (Eds.), Transition issues and directions (pp.77-90). Reston, VA: Council for Exceptional Children.

Brown, L., Branston-McClean, M., Baumgart, D., Vincent, L., Falvey, M., & Schroeder, J. (1979). Using characteristics of current and subsequent least restrictive environments in the development of curricular content for severely handicapped students. AAESPH Review, 4(4), 407-424.

Brown, L., Falvey, M., Baumgart, D., Pumpian, I., Schroeder, J., & Gruenewald, L. (1980). Strategies for teaching chronological age appropriate functional skills to adolescent and young adult severely handicapped (Vol. 9). Madison, WI: Madison Metropolitan School District.

Brown, L., Nietupski, J., & Hamre-Nietupski, S. (1976). Criterion of ultimate functioning. In M. Thomas (Ed.) Hey, don't forget about me (pp. 2-15). Reston, VA: Council for Exceptional Children.

Buchanan, M., & Wolf, J. S. (1986). A comprehensive study of learning disabled adults. Journal of Learning Disabilities, 19(1), 34-38.

Bullis, M., & Foss, G. (1986). Assessing the employment-related interpersonal competence of mildly mentally retarded workers. American Journal of Mental Deficiency, 91, 43-50.

Bunce, M. E. (1984, December). An examination of placement services available to job seekers: A review of laypersons' literature. Journal of Employment Counseling, 175-181.

Burgess, C., & Zhu, G. (1988). The Marriott philosophy at work: A study of corporate success with the handicapped. Seattle: University of Washington, Transition Research on Problems of Handicapped Youth (TROPHY).

Burkhauser, R. V., & Haveman, R. H. (1982). Disability and work: The economics of American policy. Baltimore, MD: The Johns Hopkins University Press.

Campbell, R. T. (1983). Status attainment research: End of the beginning or beginning of the end? Sociology of Education, 56(1), 47-62.

Carter, M. P. (1962). Home, school and work. Oxford: Pergamon Press.

Carrell,H.D., Mason,C.Y., Billingsley,F., Kayser,J., & Haring,N. Do IEPs support transition? Seattle, WA: (Submitted for publication by Exceptional Children, May, 1988).

Cheney, D. & Foss, G. (1984). An examination of the social behavior of mentally retarded workers. Education and Training of the Mentally Retarded, 19, 216-221.

Clarke, J. Y., Greenwood, L. M., Abramowitz, D. B., Bellamy, G. T. (1980). Summer jobs for vocational preparation of moderately and severely retarded adolescents. Journal of the Association for the Severely Handicapped, 5(1), 24-37.

Clarke, J. Y., Greenwood, L. M., Abramowitz, D. B., & Bellamy, G. T. (1980). Summer jobs for vocational preparation of moderately and severely retarded adolescents. Journal of the Association for the Severely Handicapped, 5(1), 24-37.

Cobb, H. (1972). The forecast of fulfillment: A review of research on predictive assessment of the adult retarded for social and vocational adjustment. NY: Teachers College Press, Columbia University.

Cobb, K. B., & Danahey, A. (1986). Transitional vocational assessment. The Journal for Vocational Special Needs Education, 8(2), 3-7.

Cobb, K. B., & Phelps, L. (1983). Analyzing individualized education programs for vocational components: An exploratory study. Exceptional Children, 50, 62-64.

Cohen, Y. A. (1964). The transition from childhood to adolescence. Chicago: Aldine Publishing Company.

Combs, I. H., & Omvig, C. P. (1986). Accommodation of disabled people into employment: Perceptions of employers. Journal of Rehabilitation, 52(2), 42-45.

Cook, M. A. (1968). A four-year follow-up at East Anchorage High School. School Counselor, 15, 298-301.

Crites, J. O., (1979). Adult life stages and career developmental adjustment. In R. E. Campbell & P. Shaltry (Eds.), Perspectives on adult career development and guidance. Columbus, Ohio: National Center for Research in Vocational Education, Ohio State University.

Cunningham, J. W., Boese, R. R., Need, R. W., & Pass, J. J. (1983). Systematically derived work dimensions: Factor analysis of the Occupation Analysis Inventory. Journal of Applied Psychology, 68(2), 232-252.

Davies, R., & Rogers, E. (1985). Social skills training with persons who are mentally retarded. Mental Retardation, 23, 186-196.

DiPrete, T. A. (1981). Unemployment over the life cycle: Racial differences and the effect of changing economic conditions. American Journal of Sociology, 87(2), 286-306.

Edgar, E. (1987). Secondary programs in special education: Are many of them justifiable? Exceptional Children, 53, 555-561.

Edgar, E., & Hayden, A. R. (1982). Who are the children special education should serve? and how many children are there? Journal of Special Education,18, 523-539.

Edgar, E., Levine, P., Dubey, M., & Levine, R. (1986, July). Washington State follow along studies. The 1985 special education graduates--Students in transition. Unpublished manuscript, University of Washington.

Fafard, M. B., & Haubrich, P. A. (1981). Vocational and social adjustment of learning disabled young adults: A follow-up study. Learning Disability Quarterly, 4, 122-130.

Fardig, D. B., Algozzine, R. F., Schwartz, S. E., Hensel, J. W., & Westling, D. L. (1985). Postsecondary vocational adjustment of rural, mildly handicapped students. Exceptional Children, 52(2), 115-121.

Farley, R. C., & Akridge, R. L. (1987). Training in relationship skills and rehabilitation clients' behavior in career settings. Rehabilitation Counseli g Bulletin, 148-155.

Farley, R. C., & Hinman, S. (1987). Enhancing the potential for employment of persons with disabilities: A comparison of two interventions. Rehabilitation Counseling Bulletin, 4-15.

Fitxgerald, L. F., & Betx, N. E. (1984). Astin's model in theory and practice: A technical and philosohical critique. The Counseling Psychologist, 12, 135-138.

Flanagan, J. C. (1949). Critical requirements: A new approach to employee evaluation. Personnel Psychology, 2, 419-425.

Flanagan, J. C. (1973). Performance record for the personal and social development program. In Measuring human behavior, D. G. Lake, M. B. Miles, & R. B. Earle, Jr. (Eds.). NY: Teachers College, Columbia University.

Ford, L., Dineen, J., & Hall, J. (1984). Is there life after placement? Educational and Training of the Mentally Retarded, 19, 291-296.

Foss, G., & Peterson, S. L. (1981). Social-interpersonal skills relevant to job tenure for mentally retarded adults. Mental Retardation, 19(3), 103-106.

Garbin, A. P., Salomone, J. J., Jackson, D. P., & Ballweg, J. A. (1970). Worker adjustment problems of youth in transition from high school to work. (Research and Development Series No. 43). Columbus, OH: Center for Vocational and Technical Education, Ohio State University.

Gaylord, Ross, R., Gaylord-Ross, C., Hagie, C., Musante, P., & Jameson, D. (1986). Considerations and outcomes in transitional, supported employment. San Pablo, CA: Richmond Unified School District.

Gelb, S. A., & Mizokawa, D. T. (1986). Special education and social structure: The commonality of "exceptionality." American Educational Research Journal, 23(4), 543-557.

Gerber, P. J. , & Griffin, H. C. (1983). Vocational education practices with secondary school learning disabled and mildly handicapped students. In W. M. Cuickshank & E. Tash (Eds.) Academics and beyond: Vol. 4, the best of ACLD (pp. 135-145). Syracuse, NY: Syracuse University Press.

Gillet, P. K. (1987). Transition: A special education perspective. In R. N. Ianacone and R. A. Stodden, (Eds.), Transition issues and directions (pp. 113-119). Reston, Va.: Council for Exceptional Children.

Gilliam, J. E., (1979). Contributions and status rankings of education planning committee participants. Exceptional Children, 45, 466-468.

Gilliam, J. E., & Coleman, M. C. (1981). Who influences IEP committee decisions? Exceptional Children, 47, 642-644.

Ginzberg, E. (1980). The school/work nexus: Transition of youth from school to work (Report No. ISBN-0-87367-425-1). Bloomington, Ind.: Phi Delta Kappa Educational Foundation.

Ginzberg, E., Ginzberg, S. W., Axelrad, S., & Herma, J. L (1951). Occupational choice: An approach to a general theory. New York: Columbia University Press.

Goldstein, S., & Turnbull, A. P. (1982). Strategies to increase parent participation in IEP conferences. Exceptional Children, 48, 360-361.

Goodall, P., & Bruder, M. (1986). Parents and the transition process. Exceptional Parent, 16(2), 22-28.

Greenan, J. P. (1980). Interagency cooperation and agreements: Public policy paper series 4. Urbana-Champaign, IL: University of Illinois.

Greenspan, S. (1979). Social intelligence in the retarded. In N. R. Ellis (Ed.), Handbook of mental retardation: Psychological theory and research (2nd ed.). Hillsdale, NJ: Erlbaum.

Greenspan, S., & Schoultz, B. (1981). Why mentally retarded adults lose their jobs: Social competence as a factor in work adjustment. Applied Research in Mental Retardation, 2, 23-38.

Gruenhagen, K. A. (1982). Attitudes of fast food restaurant managers towards hiring the mentally retarded. Career Development for Exceptional Individuals, 5(2), 98-105.

Habeck, R. V. , Galvin, D. E., Frey, W. D., Chadderdon, L. M., & Tate, D. G. (Eds.). (1985). Economics and equity in employment of people with disabilities: International policies and practices: Proceedings from the symposium. East Lansing, MI: Michigan State University. (ERIC Document Reproduction Service No. ED 261 209)

Halpern, A. S. (1973). The impact of work study programs on employment of the mentally retarded: Some findings from two sources (Working paper No. 61). Eugene, OR: University of Oregon, Research and Training Center in Mental Retardation.

Halpern, A. S. (1973). General unemployment and vocational opportunities for EMR individuals. American Journal of Mental Deficiency, 78(2), 123-127.

Halpern, A. (1985). Transition: A look at the foundations. Exceptional Children, 51(6), 479-486.

Hanley-Maxwell, C., Rusch, F., Chadsey-Rusch, J., & Renzaglia, A. (1986). Reported factors contributing to job terminations of individuals with severe disabilities. Journal of the Association of the Severely Handicapped, 11(1), 45-52.

Harmon, D. S. (1988). The validity of parents' assessments of their handicapped children's intelligence. Unpublished doctoral dissertation. University of Washington, Seattle.

Harrington, T. F. Handbook of career planning for special need students. Rockville, Md.: Aspen, 1982.

Harris, Louis & Assoc. (1987). A national survey of disabled Americans Vocational/Developmental Rehabilitation Review, 4, 4-5.

Hasazi, S. B. (1985). Facilitating transition from high school: Policies and practices. American Rehabilitation, 11(3), 9-11.

Hasazi, S. B., Gordon, L. R., & Roe, C. A. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979 to 1983. Exceptional Children, 51(6), 455-469.

Hasazi, S., Preskill, H., Gordon, L., & Collins, C. (1983). Factors associated with the employment status of handicapped youth. Paper presented at American Education Research Association, NY.

Hasazi, S., & York, R. (1978). Eleven steps to good teaching. Teaching Exceptional Children, 10, 63-66.

Hasazi, S. B., Gordon, L. R., Roe, C. A., Finck, K., Hull, M., & Salembier, G. (1985). A statewide follow-up on post high school employment and residential status of students labeled "mentally retarded." Education and Training of the Mentally Retarded, 20(4), 222-234.

Hastings, L. O., Hill, J. T., & Kindinger, R. M. (1983). Vocational preparation: Training students to be workers. Facilitating transition from the classroom to the work setting. The Journal for Vocational Special Needs Education, 6(1), 12-14.

Havighurst, R. J., & Gottlieb, D. (1975). Youth and the meaning of work in R. J. Havighurst & P. H. Dreyer (Eds.), Youth: The seventy-fourth yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press.

Hawkins, J. A. (1984). Follow-up study of special education graduates: Class of 1983. Rockville, MD: Montgomery County Public Schools, Department of Educational Accountability. (ERIC Document Reproduction Service No. ED 256 786)

Hill, J.M.M. (1969). The transition from school to work. London: Tavistock Institute of Human Relations.

Holzer, H. J. (1987). Job search by employed and unemployed youth. Industrial and Labor Relations Review, 40(4), 601-611.

Holzer, H. J. (1987). Informal job search and black youth unemployment. The American Economic Review, 77(3), 446-452.

Holzer, H. J. (1988). Search method use by unemployed youth. Journal of Labor Economics, 6(1), 1-19.

Horton, B., Maddox, M., & Edgar, E. (1984). Adult transition model: Planning for postschool services. Bellevue, WA: Edmark Publishing Co.

Hunter, P. N., & Zuger, R. R. (1979). Easing the transition from school to work for students with severe physical disabilities: A summer work experience. Rehabilitation Literature, 40(10), 298-304.

Jenkins, S. (1981). The ethnic dilemma in social services. New York: The Free Press.

Johnson, D. R., Bruininks, R. H., & Thurlow, M. L. (1987). Meeting the challenge of transition service planning through improved interagency cooperation. Exceptional Children, 53(6), 522-530.

Johnson, J. L., & Mithaug, D. E. (1978). A replication survey of sheltered workshop entry requirements. AAESPH Review, 3, 116-122.

Kallen, D., & Colton, S. (1980). Educational developments in Europe and North America since 1960 (Report No. ED-EPP-S.75). Paris: United Nations Educational, Science, and Cultural Organization. (ERIC Document Reproduction Service No. ED 203 443)

Kaufman, J. J., Schaefer, C. J., Lewis, M. V., Stevens, D. W., & House, E. W. (1967, February). The role of the secondary schools in the preparation of youth for employment. University Park, PA: Pennsylvania Institute for Research on Human Resources, the Pennsylvania State University.

Kennedy, M. (1985). Movin'out on the Eden Express. Tables. National Restaurant Association.

Kernan, K. & Koegel, P. (1984). Employment experiences of community-based mildly retarded adults. In R. Edgerton (Ed.), Lives in process: Mildly retarded adults in a large city (pp. 9-26). Washington, DC: American Association on Mental Deficiency.

Kjos, D. L. (1988, March). Job search activity patterns of successful and unsuccessful job seekers. Journal of Employment Counseling, 4-7.

Kregel, J., Wehman, P., Seyfarth, J., & Marshall, K. (1986). Community integration of young adults with mental retardation: Transition from school to adulthood. Education and Training of the Mentally Retarded, 21, 35-42.

Krupp, J. (1987). Counseling with an increased awareness of the transition process. Counseling and Human Development, 19(7), 2-15.

Kutscher, R. K. (1984). Bridge to tomorrow: Education for the noncollegiate labor force. Occupational Outlook Quarterly, 28(2), 38-40.

Lagomarcino, T. R., & Rusch, F. R. (1987). Supported employment: transition from school to work. Interchange, 8(1), 1-4.

Lam, C. S. (1986). Comparison of sheltered and supported work programs: A pilot study. Rehabilitation Counseling Bulletin, 67-80.

Laswell, T. (1965). Class and stratum: An introduction to concepts and research. Boston: Houghton Mifflin.

Latham, V. M. (1987, March). the job search process: An attitudinal and behavioral analysis. Journal of Employment Counseling, 25, 2-7.

Linari, R. F., & Belmont, R. M. (1986). 2001: Employment odyssey or opportunity for persons with handicapping conditions? CDEI, 35, 34-40.

Low, N. P., & Crawshaw, B. W. (1985). Youth without housing: patterns of exclusion. The Australian Quarterly, 77-84.

Lowder, M., & Zeller, R. (1984). The transition from school to community: A guide for planners of post-school services for handicapped youth. Eugene, OR: University of Oregon, Western Regional Resource Center.

Lynch, E. W., & Stein, R. (1982). Perspectives on parent participation on special education. Exceptional Education Quarterly, 3(2), 56-63.

Maguire, M., & Ashton, D. (1987). Employers' perceptions and use of educational qualifications. Educational Analysis, 3, 25-36.

Maizels, J. (1970). Adolescents' needs and the transition from school to work. London: Athlone Press.

Mann, W., & Gregory, A. (1981). The employment environment for mildly intellectually handicapped young people (Report No. ISBN-0-909931-14-3). Clayton, Victoria, Australia: Monash University. (ERIC Dcoument Reproduction Service No. ED 247 461)

Manpower Services Commission. (1980). Outlook on teaching. London: HMSO.

McBride, J. W., & Forgnone, C. (1985). Emphasis of instruction provided LD, EH, and EMR students in categorical and cross-categorical resource programs. Journal of Research and Development in Education, 18, 50-54.

McKinney, J. D., & Hocutt, A. N. (1982). Public school involvement of parents of learning disabled children and average achievers. Exceptional Education Quarterly, 3(2), 64-73.

Menken, W. J. (1978). Disability in the family. In Conference Proceedings: Second European Conference of Rehabilitation International; Disability in the Family. Brighton, England, September 18-21.

Miller, D. C., & Form, W. H. (1964). Industrial sociology (2nd ed.). New York: Harper & Row, 1964.

Miller, J. V., & Leonard, G. E. (1974). Career guidance practices for disadvantaged youth. Falls Church, Va.: National Vocational Guidance Association.

Miller, J. V. (1982). Lifelong Career Development for disadvantaged youth and adults. The Vocational Guidance Quarterly, pp. 359-366.

Mithaug, D., Hagmeier, L., & Haring, N. (1977). The relationship between training activities and job placement in vocational education of the severely and profoundly handicapped. AAESPH Review, 2, 89-109.

Mithaug, D., & Hanawalt, D. (1978). The validation of procedures to assess prevocational task preferences in retarded adults. Journal of Applied Behavior Analysis, 11, 153-162.

Mithaug, D., & Horiuchi, C. (1983). Colorado statewide follow-up survey of special education students. Denver: Colorado State Department of Education.

Mithaug, D. E., Horiuchi, C. N., & Fanning, P. N. (1985). A report on the Colorado statewide follow-up survey of special education students. Exceptional Children, 51, 397-404.

Mithaug, D., Mar, D., Stewart, J., & McCalmon, D. (1980). Assessing prevocational competencies of profoundly, severely, and moderately retarded persons. Journal of the Association for the Severely Handicapped, 5(3), 270-284.

Mithaug, D. E. (1979). Negative employer attitudes toward hiring the handicapped: Fact or fiction? Journal of Contemporary Business, 8(4), 19-26.

Mithaug, D. E. (1979). The relation between programmed instruction and task analysis in the prevocational training of severely and profoundly handicapped persons. AAESPH Review, 4(2), 162-178.

Mithaug, D. E., & Hagmeier, L. D. (1978). The development of procedures to assess prevocational competencies of severely handicapped young adults. AAESPH Review, 3(2), 94-115.

Mithaug, D. E., Horiuchi, C. N., & Fanning, P. N. (1985). A report on the Colorado statewide follow-up survey of special education students. Exceptional Children, 51, 397-404.

Mithaug, D. E., Horiuchi, C. N., & McNulty, B. A. (1987). Parent reports on the transitions of students graduating from Colorado special education programs in 1978 and 1979. Study commissioned by the Colorado Department of Education.

Mithaug, D. E., & Mar, D. (1980). The relation between choosing and working prevocational tasks in two severely retarded young adults. Journal of Applied Behavior Analysis, 13, 177-182.

Mithaug, D. E., & Martin, J. E. (In press). Adaptability instruction: The goal of transitional programming. Exceptional Children.

Mithaug, D. E., Martin, J. E., & Agran, M. (1977). Adaptability instruction: The goal of transition programming. Exceptional Children, 53, 500-505.

Moore, W. E. (1969). Occupational socialization. In D. A. Goslin (Ed.), Handbook of socialization theory and research (861-883). Chicago: Rand McNally & Co.

Mussen, P. H., Conger, J. J., Kagan, J., & Geiwitz, J. (1979). Psychological development: A life-span approach. New York: Harper & Row, Publishers.

National Center for Educational Statistics (1983). The condition of education. Washington, DC: author, U.S. Department of Education.

Nixon, J. E., & Locke, L. F. (1973). Research on teaching physical education. In Second handbook on research on teaching. R. Travers (Ed.). Chicago: IL: AERA, Rand McNalley & Company.

Noble, J. H., Jr. (1984). Employment in the context of disability policy. In Economics and equity in employment of people with disabilities: International policies and practices. East Lansing, MI: International Symposium on the Employment of Disabled Peoples.

Novak, A. J., & Heal, L. W. (1980). Integration of developmentally disabled individuals into the community. Baltimore, MD: Paul H. Brookes.

Okolo, C. M., & Sitlington, P. (1986). The role of special education in LD adolescents' transition from school to work. Learning Disability Quarterly, 9, 141-155.

Okun, B. F. (1984). Working with adults: Individual, family, and career development. Monterey: Brooks/Cole Publishing Co.

Oleksy-Ojikutu, A. E. (1986). The career time-line: A vocational counseling tool. The Career Development Quarterly, 35, 47-52.

Owen, D. E. (1984). Profile analysis: Matching positions and personnel. Supervisory Management, November, 14-20.

Owings, J., & Stocking, C. (1985). High school and beyond, A national longitudinal study for the 1980s: Characteristics of high school students who identify themselves as handicapped. Washington, DC: U.S. Department of Education, National Center for Educational Statistics.

Palmer, G. J., & McCormick, E. J. (1961). A factor analysis of job activities. Journal of Applied Psychology, 45, 289-294.

Polle, D. L. (1987). Competitive employment of persons with severe physical disabilities: A multivariate analysis. Journal of Rehabilititation, 53, 20-25.

Remmers, H. H. (1963). Rating methods in research on teaching. In Handbook of research on teaching. N. L. Gage (Ed.). Chicago, IL: AERA, Rand McNally & Company.

Rhodes, L. E. (1986). Industry-based structure employment: An option for severely handicapped people. Unpublished manuscript. University of Oregon.

Rhodes, L. E., & Valenta, L. (1985). Industry-based supported employment: An enclave approach. Journal of the Association for the Severely Handicapped, 10(1), 12-20.

Ricklefs, R. (1986, October 21). Faced with shortages of unskilled labor, employers hire more retarded workers. Wall Street Journal.

Romer, D., & Heller, T. (1983). Social adaptation of mentally retarded adults in community settings: A social-ecological approach. Applied Research in Mental Retardation, 4, 303-314.

Rusch, F. R., & Chadsey-Rusch, J. (1985). Employment for persons with severe handicaps: Curriculum development and coordination of services. Focus on Exceptional Children, 17(9), 1-8.

Rusch, F. R., Chadsey-Rusch, J., White, D., & Gifford, J. (1981). Programs for severely mentally retarded adults--Perspectives and methodologies. In D. Bricker & J. Fuller (Eds.), Severe mental retardation from theory to practice (pp. 119-140). Lancaster, PA: Lancaster Press.

Rusch, F. R., Mithaug, D. E., & Flexer, R. W. (1986). Obstacles to competitive employment and traditional program options for overcoming these obstacles. In F. Rusch (Ed.), Competitive employment issues and strategies (pp. 9-22). Baltimore: P. H. Brookes Publishing Co.

Rusch, F. R., & Phelps, A. (1987). Secondary special education and transition from school to work: A national priority. Exceptional Children, 53, 487-492.

Rusch, F. R., Schutz, R. P., & Agran, M. (1982). Validating entry-level survival skills for service occupations: Implications for curriculum development. Journal of the Association for the Severely Handicapped, 7(3), 32-41.

Ryans, D. G. (1960). Characteristics of teachers. Washington, DC: American Council on Education.

Sailor, W., & Guess, D. (1983). Severely handicapped students: An instructional design. Boston: Houghton-Mifflin Co.

Santilli, N. R.,m & Furth, H. G. (1987). Adolescent Work perceptions: A developmental approach. In J. H. Lewko (Ed.), How children and adolescents view the world of work. San Francisco: Jossey-Bass Inc.

Schalock, R. L., & Harper, R. S. (1978). Placement from community-based mental retardation programs: How well do clients do? American Journal of Mental Deficiency, 83, 240-247.

Schalock, R. L., Harper, R. S., & Carver, G. (1981). Independent living placement: Five years later. American Journal of Mental Deficiency, 86(2), 170-177.

Schalock, R. L., Harper, R. S., & Genung, T. (1981). Community integration of mentally retarded adults: Community placement and program success. American Journal of Mental Deficiency, 80(5), 478-488.

Schalock, R. L. & Hill, M. (1986). Evaluating employment services. In (Eds.) W. E. Kreinan & J. A. Stark, Pathways to employment for adults with developmental disabilities (pp 285-302). Baltimore: Paul H. Brookes.

Schalock, R. L., & Lilley, M. A. (1986). Placement from community-based mental retardation programs: How well do

clients do after 8 to 10 years? American Journal of Mental Deficiency, 90(6), 669-676.

Schalock, R. L., Wolzen, B., Ross, I., Elliott, B., Werbel, G., & Peterson, K. (1986). Post-secondary community placement of handicapped students: A five-year follow-up analysis. The Learning Disability Quarterly, 9, 295-303.

Scharff, D. E., & Hill, J.M.M. (1976). Between two worlds: Aspects of the transition from school to work. London: Careers Consultants Limited.

Schloss, P. J., McEwen, D., Lang, E., & Schwab, J. (1986). Progress: A model program for promoting school to work transition. Career Development for Exceptional Individuals, 35(9), 16-23.

Schloss, P. J., & Schloss, C. N. (1985). Contemporary issues in social skill research with mentally retarded persons. Journal of Special Education, 19, 269-282.

Schreiner, J. (1978). Prediction of retarded adults' work performance through components of general ability. American Journal of Mental Deficiency, 83(1), 77-79.

Schutz, R., Jostes, K., Rusch, F., & Lamson, D. (1980). Acquisition transfer and social validation of two vocational skills in a competitive employment setting. Education and Training of the Mentally Retarded, 15, 306-311.

Schutz, R. P., & Rusch, F. R. (1982). Competitive employment toward employment integration for mentally retarded persons. In W. Kiernan & J. Stark (Eds.), Prevocational and vocational education for special needs youth (pp. 133-159). Baltimore, MD: Paul H. Brookes.

Schwartz, P. (1985). Employment incentives manual: How to motivate businesses to hire individuals with disabilities (No. 1). Bellingham, WA: Western Washington University, American Council on Rural Special Education (ACRES).

Seligmen, D. (1981, November 16). Luck and careers. Fortune, 60-75.

Sherman, S. W. & Robinson, N. M. (Eds.). (1982). Ability testing of handicapped people: Dilemma for government, science, and the public. Washington, DC: National Academy Press.

Statistical Policy Division. (1972). Standard Industrial Classification Manual. Washington, DC: Office of Management and Budget, Superintendent of Documents, U.S. Government Printing Office.

Steiger, W. A. (1977, March 8). Congressional Record--House (6592). Washington, DC: Government Printing Office.

Stodden, R. A., & Boone, R. (1987). Assessing transition services for handicapped youth: A cooperative interagency approach. Exceptional Children, 53, 537-545.

Stodden, R. A., & Browder, P. M. (1986). Community based competitive employment preparation of developmentally disabled person: A program description and evaluation. Education and Training of the Mentally Retarded, 21, 43-52.

Super, D. E. (1957). The psychology of careers. New York: Harper & Row, Pub.

Super, D. E. (1953). A theory of vocational development: American Psychologist, 8, 185-190.

Super, D. E. (1969). The natural history of a study of lives and vocations. Perspectives on Education, 2, 13-22.

Super, D. E., & Hall, D. T (1978). Career development: Explorationa and planning. Annual Review of Psychology, 29, 333-372.

Szymanski, E. M, & Parker, R. M. (1987). Supported employment research: A commentary. Rehabilitation Counseling Bulletin, 59-62.

Thiel, G. W. (1981). Relationship of IQ, adaptive behavior, age, and environmental demand to community-placement success of mentally retarded adults. American Journal of Mental Deficiency, 86(2), 208-211.

Tiedeman, D. V., & O'Hara, R. P. (1963). Career development: Choice and adjustment. New York: College Entrance Examination Board.

U.S. Commission on Civil Rights. (1983). Accommodating individual differences across the spectrum. Washington, DC: U.S. Government Printing Office.

Vondracek, F. W., & Lerner, R. M. (1982). In B. B. Wolman, (Ed.) Handbook of developmental psychology. Englewood Cliffs, N. J.: Prentice-Hall, Inc.

Wagner, M. (1988). The transition of learning disabled youth from secondary school to adult life: descriptive findings prepared for the 1988 Metting of the American Education Research Association. New Orleans, Louisiana. Unpublished.

Wehman, P. (1975). Behavioral self-control with the mentally retarded. Journal of Applied Rehabilitation Counseling, 6, 27-34.

Wehman, P. (1975). Toward a social skills curriculum for developmentally disabled clients in vocational settings. Rehabilitation Literature, 36(11), 342-348.

Wehman, P. (1981). An analysis and evaluation of the failures of severely disabled individuals in competitive employment. In P. Wehman (Ed.), Competitive employment: New horizons for severely disabled individuals (pp. 181-198). Baltimore, MD: Paul H. Brookes.

Wehman, P. (1981). Assessment of employability - An ecological approach. In P. Wehman (Ed.), Competitive employment new horizons for severely disabled individuals (pp. 17-43). Baltimore: Paul H. Brookes.

Wehman, P. (1981). Employer, co-worker, and parent perceptions of severely disabled workers. In P. Wehman (Ed.), Competitive employment: New horizons for severely disabled individuals (pp. 117-155). Baltimore, MD: Paul H. Brookes.

Wehman, P. (1981). Model programs in competitive employment. In P. Wehman (Ed.), Competitive employment: New horizons for severely disabled individuals (pp. 199-237). Baltimore, MD: Paul H. Brookes.

Wehman, P. (1981). Training for competitive employment. In P. Wehman (Ed.), Competitive employment: New horizons for severely disabled individuals (pp. 45-75). Baltimore, MD: Paul H. Brookes.

Wehman, P. (1986). Transition from school to adulthood for youth with severe handicaps. Focus on Exceptional Children, 18, 1-12.

Wehman, P., & Hill, J. (1982). Preparing severely and profoundly handicapped students to enter less restrictive environments. Journal of the Association for the Severely Handicapped, 7, 33-39.

Wehman, P., Hill, J., Goodall, P., Cleveland, P., Brooke, V., & Pentecost, J. (1982). Job placement and follow-up of moderately and severely handicapped individuals after three years. Journal of the Association for the Severely Handicapped, 7, 5-16.

Wehman, P., Hill, M., Hill, J., Brooke, V., Pendleton, P., & Britt, C. (1985). Competitive employment for persons with mental retardation: A follow-up six years later. Mental Retardation, 23, 274-281.

Wehman, P., Hill, J. W., & Koehler, F. (1979). Helping severely handicapped persons enter competitive employment. AAESPE Review, 4(3), 274-290.

Wehman, P., & Kregel, J. (1985). A supported work approach to competitive employment of individuals with moderate and severe handicaps. Journal of the Association for the Severely Handicapped, 10(1), 3-11.

Wehman, P., Kregel, J., & Barcus, T. (1985). From school to work: A Vocational transition model for handicapped students. In P. Wehman & J. W. Hill (Eds.), Competitive employment for persons with moderate and severe mental retardation: From research to practice (pp. 169-198). Richmond: Virginia Commonwealth University, Rehabilitation Research and Training Center.

Wehman, P., Kregel, J., & Barcus, T. (1985). From school to work: A Vocational transition model for handicapped students. Exceptional Children, 52(1), 25-37.

Wehman, P., Kregel, J., Barcus, J. M., & Schalock. (1986). Vocational transitions for students with developmental disabilities. In W. E. Kiernan and J. A. Stark (Eds.), Pathways to employment for adults with developmental disabilities, (pp 113-128). Baltimore: Paul H. Brookes.

Wehman, P., Kregal, J., & Seyfarth, J. (1985). Employment outlook for young adults with mental retardation. Rehabilitation Counseling Bulletin, 29(2), 90-99.

Wehman, P., Kregal, J., & Seyfarth, J. (1985). Transition from school to work for individuals with severe handicaps: A follow-up study. Journal of the Association for the Severely Handicapped, 10, 132-136.

Wehman, P., & McLaughlin, P. (1980). Domestic skills subdomain. In P. Wehman & P. McLaughlin (Eds.), Vocational curriculum for developmentally disabled persons (pp. 119-131). Baltimore, MD: University Park Press.

Wehman, P., & Melia, R. (1985). The job coach: Function in transitional and supported employment. American Rehabilitation, 11, 4-7.

Wehman, P. M., Moon, S., & McCarthy, P. (1986). Transition from school to adulthood for youth with severe handicaps. Focus on Exceptional Children, 18(5), 1-12.

Wehman, P., Renzaglia, A., & Bates, P. (1985). Functional living skills for moderately and severely handicapped individuals. Austin, TX: Pro-ed.

Wehman, P., Renzaglia, A., Berry, G., Schutz, R., & Karan, O. (1978). Developing a leisure skill repertoire in severely and profoundly handicapped persons. AAESPH Review, 3(3), 162-172.

Wehman, P., Rues, J., Cook, D., & Guess D. (1985). Transition from school to work for individuals with severe handicaps: A follow-up study. Journal of the Association for Persons with Severe Handicaps, 10(3), 132.

Wehman, P., & Schleien, S. (1980). Classroom techniques. Education and Training of the Mentally Retarded, 15, 50-57.

Wehman, P., Schutz, R., Bates, P., Renzaglia, A., & Karan, O. (1978). Self-management programs with mentally retarded workers: Implications for developing independent vocational behavior. British Journal of Social and Clinical Psychology, 17, 71-74.

Wehman, P., Wood-Pietruski, W., Everson, J., & Parent, W. (1985). American Rehabilitation, 7, 12-16.

Wershing, A., Gaylord-Ross, C., & Gaylord-Ross, R. (1986). Implementing a community-based vocational training model: A process for systems change. Education and Training of the Mentally Retarded, 21, 130-136.

West, M. A., & Newton, P. (1983). The transition from school to work. New York: Nichols Publishing Company.

Wilcox, B., & Bellamy, G. T. (1982). From school to what? Transition and adult services. In B. Wilcox & G. T. Bellamy (Eds.), Design of high school programs for severely handicapped students (pp. 99-120). Baltimore: Paul H. Brookes.

Wilensky, H. L. (1961). Orderly careers and social participation: The impact of work history on social integration in the middle mass. American Sociological Review, 26, 521-539.

Will, M. (1983). OSERS programming for the transition of youth with disabilities: Bridges from school to working life. Alexandria, VA: ERIC Document Reproduction Service No. ED 256 132.

Will, M. (1984). OSERS programming for the transition; of youth with disabilities: Bridges from school to working life.

Williams, W., Vogelsberg, R. T., & Schutz, R. (1985). Programs for secondary-age severely handicapped youth. In D. Bricker & J. Fuller (Eds.), Severe mental retardation from theory to practice. Division on Mental Retardation, Council for Exceptional Children. Lancaster, PA: Lancaster Press.