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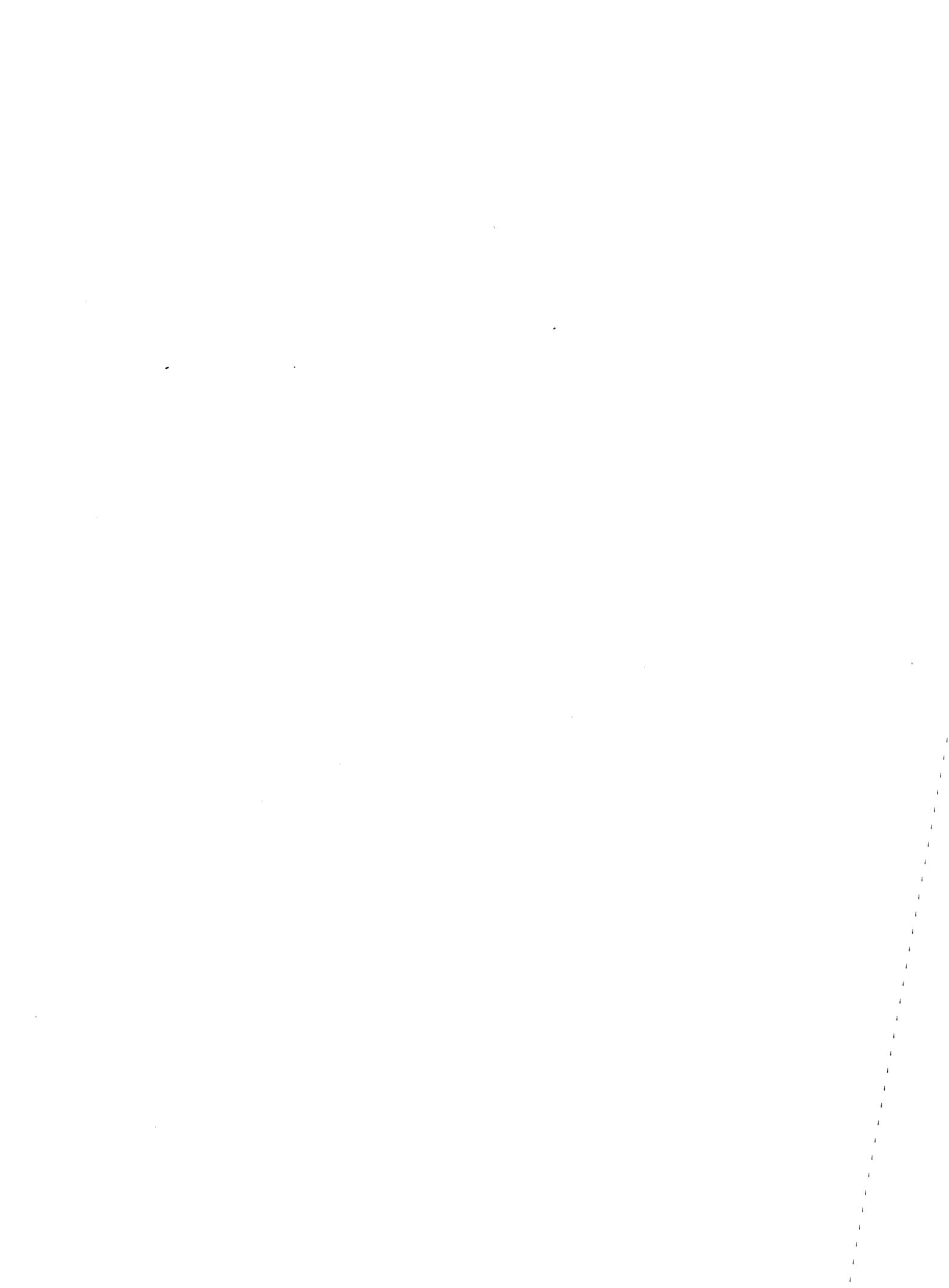
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**Butler, William David**

**VOCATIONAL REHABILITATION AND EMPLOYABILITY OF THE  
LEARNING DISABLED ADULT IN ARIZONA**

*The University of Arizona*

Ed.D. 1982

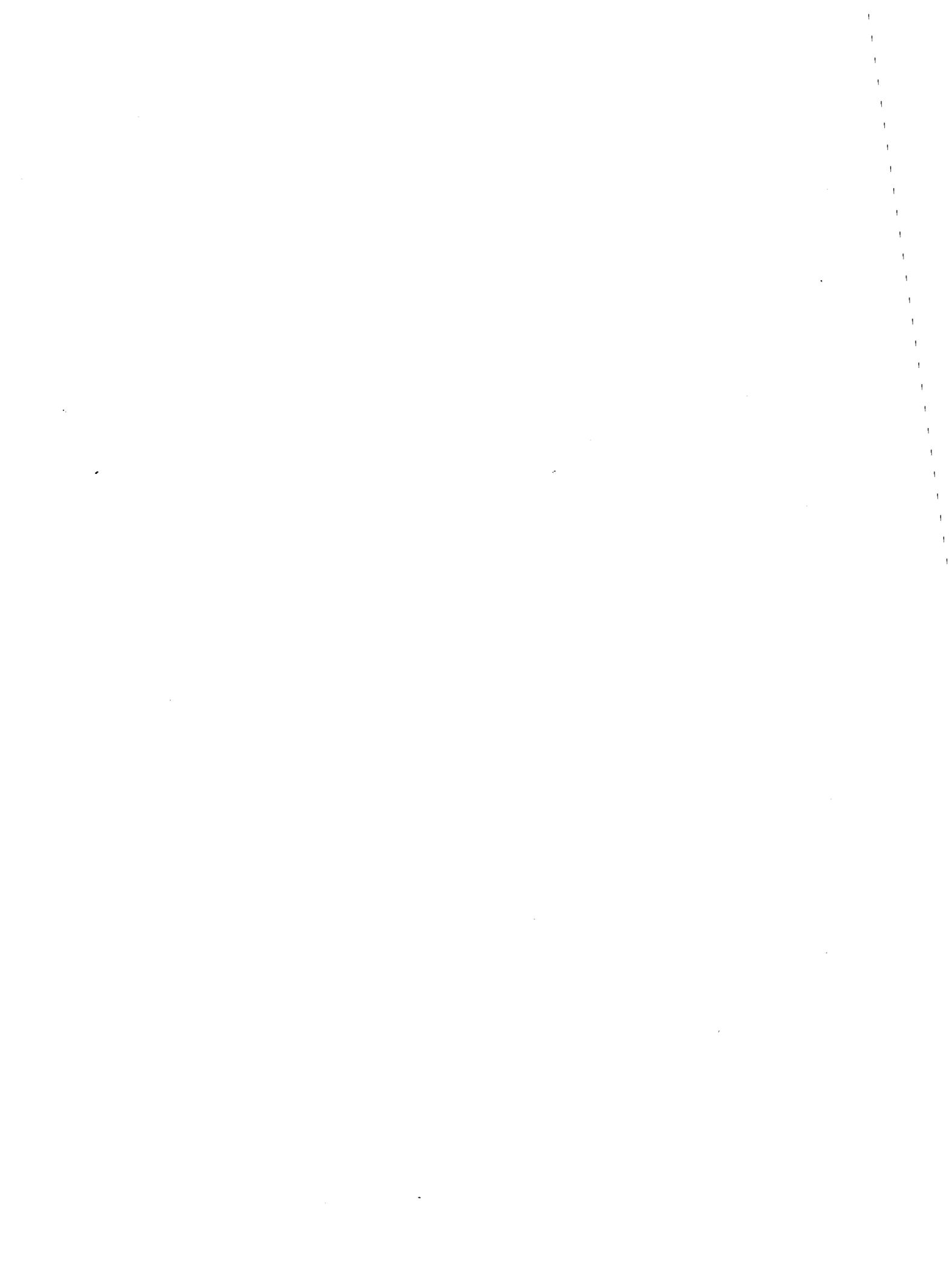
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VOCATIONAL REHABILITATION AND EMPLOYABILITY  
OF THE LEARNING DISABLED ADULT IN ARIZONA

by

William David Butler

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A Dissertation Submitted to the Faculty of the  
DEPARTMENT OF REHABILITATION  
In Partial Fulfillment of the Requirements  
For the Degree of  
DOCTOR OF EDUCATION  
WITH A MAJOR IN REHABILITATION COUNSELING  
In the Graduate College  
THE UNIVERSITY OF ARIZONA

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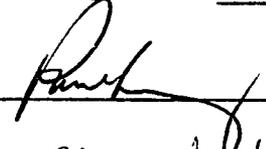
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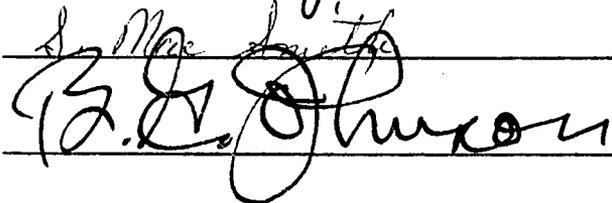
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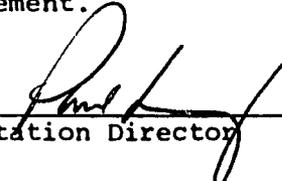
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## TABLE OF CONTENTS

List of Tables.....	iv
Abstract.....	vi
CHAPTER 1.....	1
Background.....	2
Statement of the Problem.....	3
Purpose of the Study.....	5
Research Question.....	6
Rationale for the Study.....	6
Definition of Terms.....	7
Assumptions of the Study.....	8
Limitations of the Study.....	9
Summary.....	9
CHAPTER 2 REVIEW OF LITERATURE.....	10
Brief History of Vocational Literature.....	10
History of Recent Professional Response to the Learning Disabled Adult in Arizona.....	13
Recent Federal Response to the Vocational Needs of the Learning Disabled.....	15
Learning Disability as a Substantial Employment Handicap (.E.H.).....	19
The Need for Outcome Research Focusing on the Learning Disabled Adult Vocational Rehabilitation Client	24
Summary.....	27
CHAPTER 3 RESEARCH METHODOLOGY.....	28
The Setting.....	28
The Population.....	28
Data Collection Procedures.....	29
Hypotheses.....	31

TABLE OF CONTENTS-- Continued

Statistical Analysis and Research Design.....32  
Summary .....33  
CHAPTER 4 PRESENTATION AND ANALYSIS OF THE DATA.....34  
Introduction.....34  
Preparation for Data Analysis.....34  
Data Analysis.....37  
Results of Data Analysis.....37  
SUMMARY OF FINDINGS.....42  
CHAPTER 5 SUMMARY, CONCLUSIONS, RECOMMENDATIONS.....43  
Conclusions.....45  
Recommendations for Further Research.....50  
Summary .....51  
  
APPENDIX A: COMPOSITE AVERAGE OF DEMOGRAPHIC DATA  
OF SUBJECTS WHO RECEIVED A SINGLE SERVICE.....52  
  
APPENDIX B: COMPOSITE AVERAGE OF DEMOGRAPHIC DATA OF  
SUBJECTS WHO RECEIVED MULTIPLE SERVICES.....54  
  
APPENDIX C: RAW DATA USED IN THE PRESENT STUDY.....56  
  
APPENDIX D: FOUR-DIGIT OCCUPATION AND TRAINING  
SPECIALITY CODES.....65  
  
APPENDIX E: DISABILITY CODES.....67  
  
APPENDIX F: STATE WHERE CLIENT RESIDED AT TIME OF  
ASSIGNMENT OF SOCIAL SECURITY NUMBER.....71

TABLE OF CONTENTS--Continued

APPENDIX G: SOURCES OF SUPPORT.....73

APPENDIX H: WORK STATUS AT CLOSURE.....75

APPENDIX I: FORM ON WHICH DATA WAS RECORDED.....77

REFERENCES.....80

LIST OF TABLES

Table 1 Number, Percentages of Total Number, and Chi-Square  
Statistics for Single Treatment Modality.....39

Table 2 Number and Chi-Square Statistics for Single Treatment  
Modality.....40

Table 4 Summary of Average Treatment Duration, Age, Gender,  
Race, Years of Education, Percent of Severely Disabled,  
Amount Invested, Marital Status of Subjects Who had  
Received a Multiple of Services.....41

Table 3 Summary of Average Treatment Duration, age, Gender, Race,  
Years of Education, Percent of Severely Disabled,  
Amount Invested, and Marital Status of Client Who  
Received a Single Service Presented by Treatment  
Modality.....44

## ABSTRACT

The purpose of this study was to examine the effect that vocational rehabilitation services have on the employability of learning disabled adults in Arizona. Vocational rehabilitation case files of 134 learning disabled adults were reviewed. The services rendered fell into four categories: psychotherapy, learning disability remediation, vocational training, and counseling provided by the vocational rehabilitation counselor. It was found that the incidence of employment did not vary significantly across services. Additionally, the incidence of employment subsequent to provision of services did not vary significantly from that of vocational rehabilitation clients who were not learning disabled. The results suggested that vocational rehabilitation services had a positive effect on the employability of the learning disabled adults. Demographic, input, and outcome data was included in the appendices.

## CHAPTER 1

### INTRODUCTION

Little research has been focused on the learning disabled adult (Lenkowsky and Saposnek, 1978; Cox, 1977; Deshler, 1974; Miller, 1973), even though a learning disability typically has a major negative effect on its victim's mental health, economic status and vocational choice (Korhonen, 1976; Oettinger, 1971; Hermann, 1959).

The learning disabled adult who had a work history prior to acquiring a second disability which precipitated the application for vocational rehabilitation probably circumvented weak reading or writing skills by selecting labor intensive employment and by being dependent on family and friends when tasks related to the learning disability were unavoidable. (Lenkowsky and Saposnek, 1978).

Vocational Rehabilitation clients who have reduced physical abilities frequently develop with their counselor, individualized written rehabilitation programs which utilize residual physical abilities, with an increased use of verbal and writing skills. The learning disabled adult has fewer vocational paths available as the result of reduced actual or potential academic skills. Critchley (1973) found that the learning disabled adult responds to academic environments with an inappropriately high level of fear and anxiety. Often they will resist reentering the classroom. In addressing the learning disabled person's response to competing with the non-learning

disabled in areas where the learning disabled person is most incompetent, Thompson (1979) observed: " With the end of school attendance some individuals stabilize somewhat, though they tend to retain lifelong vulnerability to events that they experience as stress. In general, the greater the severity of the condition, the greater the vulnerability to stress..." (Thompson (1970)).

The problem of the adult vocational rehabilitation client who also is learning disabled represents a unique population which merits increased attention.

#### Background

The Chief Psychologist of the Arizona Division of Vocational Rehabilitation noted that a significant number of youths and adults had been referred to Vocational Rehabilitation for whom learning disability had created problems in learning and in personal adjustment (Finley, 1971). An inquiry to the former Department of Health, Education and Welfare with regard to the correct disability coding for this category of disability revealed that "learning disabled" adults could be listed under eleven category codes. After several communications between the Department of Health, Education and Welfare and Arizona Vocational Rehabilitation staff members, a specific coding method was devised by Arizona Vocational Rehabilitation which at present is entered on computerized case service reports (Lesowitz, 1972). This move provided an identity tag useful in tracking the progress of these persons through rehabilitation programs developed by Vocational Rehabilitation Counselors.

In 1978 the Chief Administrator for Vocational Rehabilitation in Arizona requested of his program managers that cases with the coding "Learning Disability" be retained for research purposes (Tyrell, 1978). Normally, Vocational Rehabilitation case files in Arizona are destroyed three years after they are closed. Conservation of that data led to the identification of more than 700 learning disabled adults who had applied for services in Arizona between 1975 and 1981.

#### Statement of the Problem

There was no federal vocational rehabilitation disability coding covering learning disability prior to October 1981. Because of that, little demographic or outcome data is available with regard to the learning disabled vocational rehabilitation client. A few states, including Arizona, California, Illinois, Pennsylvania, Texas and Wisconsin (Brown, 1982) anticipated the federal initiative by implementing an in-state disability code for learning disability. Arizona has had a disability coding for learning disability since 1971. The coding facilitated tracking that population as they moved through the rehabilitation process. Conclusions developed as a result of analysis of the data to be found in Arizona Vocational Rehabilitation case files may have good application in Arizona and could be useful as baseline data in states which began tracking learning disabled clients when the federal coding was initiated.

Conservation, collection and analysis of that data is important to vocational rehabilitation administrators and counselors. The

programatic response to a disability group becomes more effective as planners learn more about the parameters of the disability and the needs of the clients. Counselors also require a significant depth of understanding of the disability and the learning disabled client if they and the client are to develop an optimal Individualized Written Rehabilitation Program.

The study of the learning disabled populations who have received Vocational Rehabilitation services, has additional ramifications indirectly related to the purposes of the present study. In Arizona, the incidence of learning disability with Vocational Rehabilitation clients is about two percent. With the implementation of the federal coding for that disability group, the demand for vocational rehabilitation services nationwide could increase by about that percentage.

Recent changes in the thrust of the federal budget planning may contribute to the increase in the number of learning disabled persons applying for vocational rehabilitation services. Hull (1981) predicts that the expected reduced availability of transfer funds will increase the demand for vocational rehabilitation services. Unemployed persons living with relatives who lose their eligibility for food stamps, welfare, etc., will probably be encouraged by those relatives to seek services that will increase their employability. Hull believes that the young learning disabled adult will represent a large proportion of the increased number of clients applying for vocational rehabilitation

services. It is unlikely that the increase in the numbers of the learning disabled persons applying for services will be met with an increase of federal funding for vocational rehabilitation programs. If vocational rehabilitation is to continue to provide services to an increasing number of persons, the efficiency of the program must be increased. One way to improve the cost benefit ratio is to provide counselors with data which would help them design more efficient individualized Written Rehabilitation Programs.

This study attempted to provide a consolidation and analysis of demographic, input, process and outcome data relating to the adult learning disabled vocational rehabilitation client. The conclusions and recommendations drawn from the data suggest strategies useful to rehabilitation professionals in their efforts to construct an efficient individualized Written Rehabilitation Program.

#### Purpose of the Study

The present study was an attempt to increase the knowledge about the impact that the Arizona State/Federal Vocational Rehabilitation system has on the employability of its learning disabled adult clients. Specifically, the following questions were asked:

- 1) What was the optimal mix and sequence of services in terms of assisting the learning disabled clients maintain themselves in suitable employment for at least sixty days.

2) Which combination and number of demographic factors most closely predict which client will find employment and continue in employment for at least sixty days.

#### Research Question

The question investigated in this study was: Do Vocational Rehabilitation services have a positive effect of the employability of learning disabled adults, as compared to the overall success rate of Vocational Rehabilitation clients in Arizona?

#### Rationale for The Study

Little is known about what happens to learning disabled children when they reach adulthood. Longitudinal tracking of learning disabled persons in our mobile society is difficult, with that difficulty being exacerbated by privacy constraints (Anderson, 1975).

A significant range and amount of data relating to that population resides in Arizona Vocational Rehabilitation case files. A concern of the study was to analyze input, process and outcome data found in the case files on learning disabled adult Vocational Rehabilitation clients. In addition to a hand search of rehabilitation related literature, a computerized search of Psychological Abstracts, the Council for Exceptional Children Data Base and the National Technical and Scientific Information Data Base was accomplished. No research or data concerned with the learning disabled adult Vocational Rehabilitation client was found.

### Definition of Terms

The following are definitions of terms which were used throughout the study:

Arizona Division of Vocational Rehabilitation: The Arizona Division of Vocational Rehabilitation is an element of the Arizona Department of Economic Security. This State agency provides a broad spectrum of vocational rehabilitation services.

Case File: A file is maintained on every active Vocation Rehabilitation client. This file contains the data collected by the Vocational Rehabilitation counselor. Typical of this data is psychological, medical, and vocational test data along with progress notes written by the counselor and others, as well as other correspondence pertaining to the client.

Case Service Report: The case service report is a computer-generated report which contains a wide range of data pertaining to the individual client.

Individualized Written Rehabilitation Program: The Individualized Written Rehabilitation Program is a written plan designed by the client and the rehabilitation counselor. The plan is a description of the type and timing of the various services which will be provided by Vocational Rehabilitation in an effort to augment the client's attempt to become as vocationally functional as feasible.

Learning Disabled or Learning Disability: "Learning Disabled" means a child [person] with a disorder in one or more of

basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing or motor handicaps, of mental retardation, of emotional disturbance or of environmental, cultural or economic disadvantage." (State of Arizona, 1979).

Rehabilitation Counselor: The rehabilitation counselor in the context of this study is an employee of the Division of Vocational Rehabilitation. The rehabilitation counselor manages a fund which is intended to be used to pay for services and other items which are to be used to augment counseling designed to increase the employability of the vocational rehabilitation client.

Vocational Rehabilitation Codes: The Vocational Rehabilitation code is a specific number coding attached to a disabling condition. In regard to this study, learning disabilities in Arizona are coded 699 special projects 93, or 699 special projects L.

#### Assumptions of the Study

The assumptions upon which the study are based are:

- 1) Comprehensive and accurate demographic data about the learning disabled adult client is recorded in the Vocational Rehabilitation files.

2) The services provided to the learning disabled adult client by Vocational Rehabilitation are accurately recorded in Vocational Rehabilitation case files, in terms of both temporal order and type.

#### Limitations of the Study

The subjects of this study have been limited to clients of the Arizona Department of Economic Security, Division of Vocational Rehabilitation whose case files are housed in Vocational Rehabilitation offices located in Maricopa County and Flagstaff, Arizona.

#### Summary

Previous research has not examined the learning disabled adult, referral to state sponsored vocational rehabilitation. The present study organized demographic data and investigated the results of Vocational Rehabilitation intervention with regard to the adult learning disabled Vocational Rehabilitation client.

## CHAPTER 2

### REVIEW OF LITERATURE

The following areas are reviewed in this chapter:

1. Brief history of vocational rehabilitation;
2. History of recent professional response to the learning disabled adult in Arizona;
3. Recent federal response to the vocational needs of the learning disabled;
4. Learning disability as a substantial employment handicap;
5. The need for outcome research focusing on the learning disabled adult vocational rehabilitation client.

#### Brief History of Vocational Rehabilitation

The record of man's first attempts to rehabilitate the disabled worker is lost in time. Archaeologists have found evidence that prehistoric man sometimes would assign housekeeping duties to the disabled or aged, freeing the more able-bodied to pursue the less sedentary food gathering activities. More recently, an 1889 survey of European hospitals serving the mentally ill reported an emphasis on vocational training as a major component to therapy (Letchworth, 1889). At about the same time in the United States, programs dedicated to increasing the employability of disabled children were being developed in New York and Massachusetts. For the most part, these programs were financed privately.

However the return of thousands of World War 1 disabled veterans

stimulated interest in rehabilitation in both Europe (Weiss, 1974) and the United States. The United States' response was expressed through the Smith-Hughes Act of 1917, followed shortly by the Soldiers Rehabilitation Act of 1918 (Ayers, 1969). The Smith-Feiss Act of 1920 was similar to the Soldiers Act; but it emphasized servicing the general population and has been called the Civilian Vocational Rehabilitation Act. The Smith-Feiss Act permitted the Federal Government to offer funds on a matching basis to states which provided vocational rehabilitation service to the disabled.

Over the ensuing years, a succession of legislative acts have addressed the problems of the handicapped. The target population has broadened to include anyone who has a documented disability that is a substantial handicap to employment. At the same time, the range of services has widened to include almost any service rendered by contemporary human service programs. Recently, the chief of the Arizona Vocational Rehabilitation Program Services Section stated that the range of services that a vocational rehabilitation counselor may provide is limited by the creativity of the counselor (McCue, 1975).

Ayers (1969) recently described vocational rehabilitation as "that process, in a total rehabilitation program, through which an individual with a physical or mental handicap is helped to achieve the maximum utilization of his vocational assets."

To be eligible for vocational rehabilitation services under the state funded program, a person must satisfy the following:

- 1) Have a documented mental or physical disability which is a

substantial handicap to employment.

2) Be of working age or of working age at the projected completion of his/her rehabilitation plan.

3) Have a reasonably good chance of becoming employable at the completion of the rehabilitation plan. Employment includes competitive employment, sheltered employment and attainment of more suitable employment (Guide,1977).

Subsequent to certification of eligibility, the client and counselor design an individual rehabilitation plan. Generally, the rehabilitation plan is expressed as an organized program of services which assist the client to overcome or circumvent his vocational handicap.

Plan strategies are based on data generated during the documentation of the disability. Documentation includes medical reports, psychological/psychiatric reports, vocational evaluation and discussions between and among the vocational rehabilitation counselor, vocational rehabilitation medical consultant, and the vocational rehabilitation psychological consultant. Additional evaluations and consultations sometimes are sought. The rehabilitation plan almost always includes counseling provided by the assigned rehabilitation counselor.

The rehabilitation plan also may include the provision of a wide range of items and services including, but not limited to: prosthetic devices, maintenance and transportation payments, tuition, books and supplies for attendance at approved schools (both academic and vocational),

psychotherapy and other treatments, tools and special equipment. All diagnostic and certain other services are provided without respect to financial need. Those services contingent on financial need are offered on a sliding scale basis. An attempt is made to avoid duplication of services and to utilize similar benefits. For example, insurance coverage, community health programs and other parallel, but not necessarily identical resources would be used prior to drawing on vocational rehabilitation funds.

As implied in the eligibility criteria, the goal of the rehabilitation is suitable employment. A plan may terminate or be changed if it is clear that the goal cannot be reasonably achieved. Typical reasons for unsuccessful plans are 1) a negative change in medical or emotional conditions, 2) too optimistic an assessment of severity of the disabling condition, 3) loss of interest on the part of the client or 4) institutionalization of the client.

A plan usually is considered successful if the client remains in employment for more than sixty days. Under certain conditions, a client may continue to receive services subsequent to being rehabilitated.

#### History of Recent Professional Response to the Learning Disabled Adult in Arizona

A recent survey of educational attainment found that more than 63 million adults in the United States have less than a high school

education, with approximately 650,000 of that number residing in Arizona (Public, 1977). Of the 650,000, more than 172,000 have been identified as probably learning disabled (Johnson, 1979). Public Law 94-482, in addressing educational deficiencies, states that lifelong learning would enable the American people "to adjust to social, technological, political and economic change" (Public, 1977). Within the "scope of lifelong learning" is remedial education and special education.

Implementation of the law encouraged a wide range of educational services which included the enrollment of more than 9,000 Arizona adults in education remediation programs during 1975-1976 (Public, 1977). The Assistant Director of the Arizona Department of Adult Education feels that remediation programs for learning disabled adults will continue to play a role in increasing the vocational potential of adults for whom poor reading skills represent a vocational handicap. (Johnson, 1979).

Schaffer (1978), a consultant with Behavioral Health Systems, Incorporated, stated that learning disabled adults frequently have a significant emotional overlay with respect to classroom learning. For example, some assume a passive-dependent stance, insisting that information be "poured in". She further indicated that most of these adults require a highly individualized program which adjusts to changing emotional factors and takes advantage of individual strengths. Because of this, Schaffer's individualized program has a higher student/cost ratio than the state educational system's classroom combined with self-

teaching approach. Providers of individualized programs however, argue that although cost per pupil is higher, the overall results provide a favorable cost/benefit (Hoopengartner, 1979).

Arizona Vocational Rehabilitation has served both diagnosed and undiagnosed learning disabled adults for many years. Although the increasing range of allowable services over time has been accompanied by an expanding number of eligible disabilities, learning disability was not listed in Arizona as a discrete condition until 1973. In 1978, Vocational Rehabilitation clients having a documented learning disability represented approximately two percent of the total active vocational rehabilitation population and about four percent of the Arizona Vocational Rehabilitation clients suffering from a documented emotional disorder (Finley, 1979). The recognition of learning disability as a substantial employment handicap by vocational rehabilitation professionals is probably a recognition of the increased demand for reading and writing skills on the contemporary work force.

Recent Federal Response to the Vocational Needs  
of the Learning Disabled

A national short term training project entitled: Vocational Rehabilitation of the Learning Disabled Client was sponsored by the Rehabilitation Services Administration the week of July 27, 1981. Among the presenters were M. George Conn, the Rehabilitation Services Commissioner and Mr. Martin Spikler, Chairperson Task Force on Learning Disabilities Rehabilitation Services Administration. The speakers and other participants attempted, in part, to sum up the

recent federal response to the learning disabled with respect to vocational issues.

Spikler (1981) indicated that the Rehabilitation Services Administration designated 524 as the code to be used with learning disabled clients. Prior to this, there had been no specific coding for learning disability. He also stated that the problems of the learning disabled will be a priority issue for Rehabilitation Services Administration in 1982, and has suggested that a learning disability expert be designated in each Rehabilitation Services Administration regional office and that the individual states also designate one person knowledgeable about learning disability to be the statewide resource person. Spikler stated that professional response to learning disability is in "the state of the start versus the state of the art."

Conn (1981) emphasized early intervention with the learning disabled. During a post address question and answer period, Conn suggested that intervention as early as the 10th grade would have a positive cost benefit effect. He intended to offer information to Congress with respect to the needs of the learning disabled. That effort may result in increased funding for earlier and more comprehensive diagnostic programs and expand the remediation programs at the secondary school level.

Doperak (1981) stated that remediation was an effective early intervention approach, but recommended that a ceiling of about \$2,000 be put on that approach for each client. He reported that the benefits of remediation for young adults occurs quickly with a diminishing return

after about 100 hours of remediation.

Fogerty (1981) found after reviewing data relating to approximately 100 learning disabled adults, their average I.Q. scores as measured by the Weschler Adult Intelligence Scale resulted in a verbal score of 78 with a performance score of 98 and a full scale I.Q. score of 86.

In agreement with this present research, but in opposition to traditional findings, Fogerty, found that sixty percent of the subjects were male with forty percent being female. Traditional opinion with respect to gender incidence is approximately twenty percent occurrence with females and eighty percent occurrence with males.

Griswald(1981) recommended that Rehabilitation Services Administration develop a formalized plan of action to serve the learning disabled. Within this plan of action, he suggested a cooperative agreement with local learning disability associations. This would include an advisory group of advocates and consumers. He encouraged expansion of cooperative agreements for the local school districts including common diagnostic protocols. He stated that there is not a common terminology relating to learning disability. If the various organizations who are assisting the learning disabled are to coordinate efforts, a common taxonomy must be adopted. Griswald recommended further to the Rehabilitation Services Administration that, in addition to encouraging research with respect to the learning disabled, learning disability studies be made part of the school curriculum for rehabilitation professionals. He announced that the Institute of

Rehabilitation Issues has selected learning disability as a major topic of study this year and assumed that recent attention being focused on this problem will generate a directory of learning disability experts with respect to diagnosis and therapy.

Over the years, there has been a positive federal response to the learning disabled, although that response was difficult to discern. Because there was no specific coding for learning disabilities counselors would open cases for their learning disabled clients by using other codes, usually those based on emotional disturbances. The learning disabled client could then receive rehabilitation services, however, that population could not be practically tracked as it moved through the rehabilitation process.

The recent federal response is clearly positive as it recognizes that the problems of the learning disabled adult in the vocational rehabilitation system must be faced directly. The recent development of a specific disability code (524) for the learning disabled is evidence of a reaffirmation to serve the group. The support that State Vocational Rehabilitation organizations have received from Washington, including maintenance of the Vocational Rehabilitation program as a categorical program and a promise of increased funding for both this and the next year along with the clear encouragement from Rehabilitation Services Administration to serve the learning disabled provides the field counselors with the support they require in order to serve the group.

Learning Disability as a  
Substantial Employment Handicap (S.E.H.)

Few citations in the rehabilitation literature concern the adult in a state/federal rehabilitation setting who suffers a learning disability whether with or without additional disability (Malikin, 1976). A considerable amount of literature, however, is concerned with childhood learning disability (Deshler, 1978). Interest in the general literature in regard to the learning disabled person's vocational and personal adjustment becomes increasingly sparse as the population considered reaches puberty, and it practically vanishes at adulthood, requiring researchers to extrapolate on the more comprehensive juvenile data (Van Rijn, 1976).

Learning disability occurs in 10 to 30 percent of the primary school population (Oettinger, 1971), with 11 percent of those diagnosed as learning disabled being severely affected (Deshler, 1979). Using the label Minimal Brain Damage (MBD), Anderson (1972) noted that:

despite the fact that this is a very common handicap in childhood, and despite the fact that it is neither a self limiting nor lethal malady, there is little of nothing to be found in literature about M.B.D. symptomatology in adults. It is as though an impassable chasm separates children with M.B.D. from adults with problems, and few clinicians seem to be aware of the obvious continuity between them.

Anderson continues that the scarcity of data is related to privacy restrictions. Other writers believe that priorities developed by government agencies do not place sufficient focus on adult learning disability thereby not attracting professional concern

(Wever, 1974). Critchley (1973) reports that many of these persons are undiagnosed. They usually express school related anxiety, and attempt to conceal their academic deficiencies. It is common for disabled persons, whatever their disability, to conceal their disability when possible. Silver (1969) stated that the affected person may "pass as normal," avoiding the criticisms of the ignorant. Learning disabled adults who were of school age in the forties have good cause to avoid exposure. "It was popular to attribute academic failure to "emotional blocks" (Silver, 1969). Academic underachievers frequently were described as being lazy or stupid. As late as 1959, classroom teachers in the United States often did not know how or would deny the existence of learning disabilities (Hermann, 1959).

Many possible explanations exist as to why a problem which has a long history of investigation is still veiled in controversy. Kirby, Lyle and Amble (1972) explain that the problem is extremely complex and overlaps many disciplines. Pannbacker (1968) states that more than ninety labels have been generated to cover the symptoms subtended under learning disabilities. Pannbacker continues, "the incidence of learning disabilities will increase phenomenally due to professional interest, refinement of behavioral and medical diagnostics, and medical advancement in natal care."

Although learning disability research is in an early stage the global and devastating effect learning disability has on many of its victims is well documented. Learning disability has been called the most serious disability of childhood (Oettinger, 1971). Frequently, the learning disabled child is singled out for ridicule by his peers.

Eager to find acceptance, he is easily led astray by delinquent leaders (Anderson, 1972). Several recent studies have focused on the relationship between learning disability and juvenile delinquency (Jacobson, 1976). These studies generally support Murry's (1976) contention that the learning disabled adolescent is more likely to be incarcerated than the non-learning disabled. However, Zimmerman, et al. (1978) states that the learning disabled adolescent does not commit more or different crimes than the control group, but are inept at avoiding detection. Also, learning disabled adolescents do not assume a sufficiently penitent affect when interviewed by correction persons and are thereby more likely to be incarcerated than non-learning disabled adolescents. Zimmerman estimates that 38 percent of incarcerated youths are learning disabled. A more recent study, using a less precise method of identifying learning disabilities, found that 38 percent of incarcerated youths in Arizona probably are learning disabled (Butler, 1978). Weinschenk (1967) found that 30 percent of incarcerated males in Germany are learning disabled, and Critchley (1973) found that a higher than expected proportion of adults incarcerated in a London prison were learning disabled.

A history of incarcerations limits the juvenile's opportunity to develop the habit of work. Even those learning disabled children who do not attract the attention of the courts do not enter adulthood unscathed. Wever(1975) has found that learning disabled adolescents make vocational decisions which are markedly more immature than those of their age peers. Herman (1959) finds that only a small minority of

learning disabled persons recover completely from the troubles of childhood "as is soon apparent if one talks confidently" to then in childhood.

Miller (1973) cited examples of male heads of households whose learning disability precipitates serious financial problems. Kenkowsky and Sappnek (1978) reported that learning disabled persons frequently harbor hostilities due to their dependency on their more literate spouse. Their anger can be expressed through physical abuse of family members and threats of suicide. Curtis (1972) observed that learning disabled persons reap little benefit from social studies classes and suggests that social studies develop open-mindedness, tolerance for others, critical thinking and decision making skills. Curtis expressed concern that learning disabled adults, in addition to being inefficient in terms of vocational and personal adjustment, will make serious errors when attempting to understand and utilize political and social mechanisms.

Critchely (1973) in a report discussing dyslexia adults in England, finds that the diagnosis alone should sustain eligibility for the assignment of a "disablement services officer and to entitle the individual to placement in the disabled register." The learning disabled client in the vocational rehabilitation system is frequently a person who has experienced failure in school and never attempted college training, entering the manual trades, often by default rather than basic desire. Knox (1968) finds that this adjustment has some negative effect upon those who have an average to above-average intelligence. Frequently,

they will work at jobs which are far below the level they would have reached had they been treated for their learning disability. It is unlikely that these persons have read a book cover to cover. What material they do read is chosen because of ease of understanding rather than as a reflection of personal interest (Knox, 1968).

These adults, by virtue of their learning disability combined with a second disability, often are faced with a narrow range of work skill transferability because of the synergistic effect of the multiple disability. The long-haul truck driver who is precluded from driving by a physical disability, and who is able to read well, possibly can find work related to truck driving; for instance, dispatcher or invoice writer. The adult with the hidden learning disability frequently experiences anxiety if asked to do dispatching, as well as other work which is heavily dependent on reading and writing. The avoidance behavior previously displayed by this class of persons further reduces transfer of skills and knowledge to work which is within the client's residual physical capabilities.

One of the questions on the application for vocational rehabilitation services in Arizona is: "How can we help you?". A review of 73 active cases in which learning disability was certified reveals that 61 clients reported that their illiteracy is a substantial handicap to employment.

The Need for Outcome Research Focusing on the  
Learning Disabled Adult Vocational Rehabilitation Client

Although many millions of dollars have been invested in rehabilitation research over the last decade, Maliken (1976) stated that during "the past generation or so, there have been virtually no really new rehabilitation service breakthroughs." He argued further that, although learning disability is a problem that is rapidly assuming major proportions, the rehabilitation community pays it little attention.

The insufficient attention directed to the learning disabled adult may occur because of inadequate detection of the disability on the part of rehabilitation professionals, especially when the client displays one or more additional disabilities. Bowked (1980) in reporting a three year long study of the vocational needs of persons with epilepsy observed:

it is significant to note that a number of clients were discovered to have significant learning difficulties that were heretofore undiagnosed, even though they had been clients in the Rehabilitation system for many years. This stimulated some limited research into the problem which revealed it to be a marked problem at the Rehabilitation Center, but one to which no one yet has the answer, particularly in the adult age groups. This is significant because it points out the gap in the ability of the Vocational Rehabilitation agency to thoroughly evaluate or program effectively for those individuals.

Bowked recommends heightened sensitivity to the possible existence of undiagnosed learning disabled with adult clients.

Van Rijn (1976) recently attempted to develop a recommendation for testing learning disabled adults who apply for employment through the Federal Civil Service Commission. One of his findings was that "the literature on dyslexia does not deal directly with this topic. The

recommendations are based primarily on inferences from what is known about the diagnosis, etiology and treatment of dyslexia in children." The scarcity of literature as mentioned by Van Rijn includes basic demographic and other descriptive data. Speculation on the lack of a strong base of research into the matter has been described elsewhere in this paper (see page 19). Several writers, however, have recently touched on the type and focus of current research and have suggested approaches quite appropriate for investigations of the problem faced by the learning disabled adult.

Levitt (1961) stated that one way to improve how research is done would be to have more practitioner's input into research design. "They know the subjects and the questions that need asking." Asher (1974) would have researchers investigate systems in which they are employed as they are more likely than outsiders to know the difference between stated and actual agency goals.

Schultz (1972) strongly supported descriptive research, especially with clients of public agencies, and he argued further that researchers "cannot continue to base eighty percent of human subjects data on college students and still call our work a science of human behavior." Hefferin and Katz (1971) stated that outcome studies in rehabilitation are considered to be the most important type, as compared to investigations of program structure or treatment process research.

Hyman (1972) supported both outcome research and secondary analysis of sample surveys with clients of public agencies. Results

of ongoing programs can be evaluated without disturbing the flow of services and additionally, it is:

- 1) the most nearly standard method to evaluate these programs
- 2) an efficient way to consolidate data related to an entire group and
- 3) necessary, because of the high social and economic cost of social programs

Rusalem (1971) reports that counselors are both negatively and positively biased in regard to different disabilities. His research suggests that a positive attitude toward a disability correlates with the counselor's experience and training in regard to that disability.

Kahn (1964) has completed research which suggests that practitioners demonstrate less job related strain when they base their efforts on research rather than on intuition. Barad (1972) suggested that descriptive research is especially valuable when examining problems about which data is thin. Barsch (1968) stated that:

The luxury of careful examination of the root derivatives must be postponed to a rainy Sunday afternoon for some future analyst. The immediacy of the problem is compelling education to respond now. Often the action occurs without benefit of analysis. The failure learner is alive and hurting. He demands attention. His symptoms are varied and the explanations for his present dilemma are as varied and complicated as the number of professionals who address themselves to the task of clarification.

A descriptive examination of the learning disabled adult who is a Vocational Rehabilitation client may increase the clinician's information level, and possibly suggest more optimal therapy strategies, thus increasing the external validity of the Individualized Written Rehabilitation Program.

The review of the literature reflected a sparcity of research with respect to the learning disabled adult. The need for descriptive research which consolidates demographic and outcome data with respect to that population was discussed.

## CHAPTER 3

### RESEARCH METHODOLOGY

The present study was designed to assess the effect of vocational rehabilitation services with the learning disabled adult in terms of increased employability. This chapter is divided into the following sub-sections:

- 1) the setting
- 2) the population
- 3) data collection procedure
- 4) the hypothesis
- 5) statistical analysis and research design

#### The Setting

Data was collected utilizing Arizona Department of Economic Security files generated with the Division of Vocational Rehabilitation between fiscal year 1975 and 1981.

#### The Population

The subject population consisted of persons who were clients of the Division of Vocational Rehabilitation between the years of 1975 and 1981, and who had the following characteristics:

- 1) Adult, 17+ years of age;
- 2) Diagnosed by a psychologist or psychiatrist as having a learning disability, and
- 3) Coded in the file as being learning disabled (Vocational

Rehabilitation codes (699 Special Project 93L).

- 4) Agreement to the correctness of the coding by Vocational Rehabilitation psychological consultant;
- 5) The case was closed in status 26 or status 28.

Disabilities in addition to learning disability would not disqualify a subject.

#### Data Collection Procedures

Utilizing the Division of Vocational Rehabilitation computerized data bank, 430 closed cases in which learning disability had been listed as a disability were found. Of that number, 134 case files of qualifying subjects were identified. Data collection occurred at Vocational Rehabilitation offices and at the Vocational Rehabilitation closed file storage facility located in Phoenix, Arizona. Type, length, and cost of treatment was determined by a review of the Individualized Written Rehabilitation Program, progress notes, and individual case expenditure summaries generated by the Arizona Rehabilitation Services Administration. Data was recorded on a form (Appendix 1) designed specifically for this study.

Variables examined were divided into three categories:

1. Input variables or historical/demographic elements related to the client;
2. Process variables, which is the service provided by the Division of Vocational Rehabilitation;

3. Outcome variables, which are the changes in the client's vocational status (Bennett, Weisinger, 1974).

The following is a list of the items collected and divided into the three categories of variables.

Input variables used with this study were as follows:

- Self-reported disability at initial referral
- Documented disability
- First three digits of social security number ( to identify the state where the client resided upon application for a social security number)
- Age
- Gender
- Race
- Marital status
- Educational level
- Severity of disability

Process variables utilized were:

- Duration of psychotherapy
- Duration of remediation
- Duration of vocational training
- Duration of counseling as provided by the assigned Vocational Rehabilitation counselor
- Date of original referral
- Date of plan implementation

Date of closure

31

Amount of Vocational Rehabilitation funds and similar benefits  
invested in client

Outcome measure variables were:

Work status post closure

Type of closure

Weekly earnings post referral

Appendix C presents the raw data used in this study. Appendices D through H present a key to deciphering data which is encoded numerically.

### Hypotheses

The null hypotheses tested were as follows:

1. There is no significant difference in incidence of employment between adult learning disabled vocational rehabilitation clients who have received counseling only from their vocational rehabilitation counselor and those who received psychotherapy, remediation, vocational training, or a multiple of those services.

2. There is no significant differences in incidence of employment between adult learning disabled vocational rehabilitation clients who have received psychotherapy and those who have received counseling, remediation, vocational training, or a multiple of those services.

3. There is no significant difference in incidence of employment between adult learning disabled vocational rehabilitation clients who have received learning disability remediation and those who received counseling,

psychotherapy, vocational training, or a multiple of those services.

4. There is no significant difference in incidence of employment between adult learning disabled vocational rehabilitation clients who have received vocational training and those who received counseling, remediation, psychotherapy, or a multiple of those services.

#### Statistical Analysis and Research Design

This research was a descriptive study consisting of four independent variables and one dependent variable.

The independent variables were expressed in the individual rehabilitation plans and were the following:

1. Psychotherapy provided by a psychologist or psychiatrist;
2. Learning disability remediation provided through a recognised program or by a professional person;
3. Enrollment in a vocational training program;
4. Counseling as provided by the assigned vocational rehabilitation counselor to include job development.

The dependent variable was: completion of at least 60 days of economic self-sufficiency subsequent to the provision by Vocational Rehabilitation of at least one of the services listed as an independent variable.

The success rates of the treatments were examined to determine if the differences were statistically significant. A 2 x 4 contingency or frequency table was set up. A chi-square was performed to determine if the frequency proportions of test data were significantly different

from the cell frequencies expected from chance occurrence. The success rates were also placed in a series of 2 x 2 tables and examined with the contingency coefficient. The contingency coefficient is a chi square particularly suited for nominal variables, such as the treatment types. With the contingency coefficient, statistical comparisons can be made between different groups of two treatments. The method of testing different combinations of two treatments (2 x 2) is a more sensitive measure of significance than is the 2 x 4 statistical test (Ferguson, 1976).

#### Summary

This chapter has described the sample of the population, the data collection procedures and the statistical analysis. The sample of this study consisted of 134 adult learning disabled clients of the Arizona Division of Vocational Rehabilitation who had active cases between the years of 1975 and 1981.

A chi-square was performed to determine if the frequency proportions of the test data were significantly different from the cell frequencies expected from chance occurrence.

## CHAPTER 4

### PRESENTATION AND ANALYSIS OF THE DATA

#### Introduction

The purpose of this study was to explore the effect that Vocational Rehabilitation services have on the employability of the adult learning disabled vocational rehabilitation client.

Four hundred thirty case files in which the clients' disability was listed as learning disabled were located in closed case storage areas. One hundred thirty-four case files met the acceptance criteria with respect to this study.

The independent variables in this study were the provision of one or more of the remaining four treatments commonly provided to adult learning disabled vocational rehabilitation clients. Those treatments were psychotherapy, learning disability remediation, vocational training, and counseling as provided by the vocational rehabilitation counselor. The dependent variable was the outcome of the rehabilitation plan: a 26 or 28 closure.

#### Preparation for Data Analysis

A goal of this project was to retrieve the most accurate possible data with regard to treatment outcome; collection occurred at the case file level rather than at the level of the computerized case service report system.

The actual time in treatment could not be accurately determined without carefully reading the case file. Treatment durations as reported on the case service report could be misrepresented when the client experienced a treatment during an extended evaluation which subsequently became the major treatment when the case became active. For example, a client could complete half of a six month training program under the auspices of an extended evaluation and the second half of the training under an active plan. Although the intent of the plan was reported accurately the fact would be lost that six months of training produced a certain result.

Other data that was not readily available was the true cost of a service when all or part of that service was not paid for by Vocational Rehabilitation. That issue became important when the service had a significant effect on the rehabilitation plan. For example, a client could hold a private insurance policy which allowed him to pay out of pocket for services in addition to those mentioned in the plan.

Counselors frequently displayed more concern for the immediate personal long term vocational needs of their clients than the accurate reporting of case data. Case related information important to the better understanding of the adult learning disabled client was imbedded in a number of forms and procedures. These and other issues both in-house and peculiar to the vocational rehabilitation counseling profession required of the researcher, in that area, to have an intimate knowledge of the service providers and the milieu in which the counselor

worked if the data was to be transferred into useful information.

The mean of the variables gender, race, education level, source of income at referral; length of time the case was open, and amount of funds invested in a client were found to be approximately that of persons who had vocational rehabilitation cases which closed in status 26 or 28 and resided in urban Arizona. Approximately 53 percent of the general vocational rehabilitation clients were listed as being severely disabled. Approximately 25 percent of the clients were severely disabled. With the variables marital status and age, a difference between the learning disabled clients and the general Arizona Vocational Rehabilitation population was observed. Of Arizona Vocational Rehabilitation clients, 40 percent had never been married. Of the learning disabled clients, 91 percent had never been married. The learning disabled clients present a mean age of 22 years. The Vocational Rehabilitation population in Maricopa County had a mean age of 33 years.

Of the 87 learning disabled clients who were rehabilitated, 85 entered competitive employment. Two cases were closed with the learning disabled clients working in a sheltered workshop. With nine exceptions, rehabilitated clients assumed positions at entry level.

The overall success rate for the adult learning disabled client was 65 percent. Success with respect to the individual treatments were vocational training 69 percent; psychotherapy 60 percent; learning disability remediation 54 percent; and counseling as provided by the assigned Vocational Rehabilitation counselor 64 percent. In instances

where two or more of the treatments (multiple treatments) were provided, the success rate was 64 percent.

### Data Analysis

With the clients who received only one treatment modality, the number of success and failures for the four treatments were calculated. That information was placed in a 2 x 4 contingency with which the data could be compared.

The data was analyzed with a chi-square to determine if there was a main effect, a treatment effect, or an interaction effect between provision of a treatment and other treatments. The success rate of the urban Arizona Vocational Rehabilitation population (67 percent) was selected as the expected frequency. In all instances, the .05 level of significance was adopted. Three degrees of freedom were used with the 2 x 4 table and 1 degree of freedom for each of the set of 2 x 2 tables.

### Results of Data Analysis

A summary of the data is presented in Tables 1 and 2. Examination of the data with a chi-square procedure revealed no significant difference in success rate across or between treatments at the .05 level of significance. Additionally, at the .05 level, there was no significant difference between the success rate of the individual treatments and the success rate of the general urban Arizona Vocational Rehabilitation population.

A summary of listed demographic data (Tables 3 and 4) revealed that there is little difference between the rehabilitated and not

rehabilitated clients. No prediction of success or failure of a rehabilitation plan on the basis of the observed demographic data could be supported.

Number, Percentages of Total Number, and Chi-Square Statistics  
for Single Treatment Modality

Variable	Number	%	Chi-Square <sup>a</sup>
<u>Psychotherapy</u>			
Rehabilitated	6	60.0	
Not rehabilitated	4	40.0	
<u>Remediation</u>			
Rehabilitated	7	53.8	
Not rehabilitated	6	46.2	
<u>Vocational Training</u>			
Rehabilitated	42	68.0	
Not rehabilitated	19	31.1	
<u>Counseling</u>			
Rehabilitated	16	64.0	
Not rehabilitated	9	36.0	1.43

<sup>a</sup>The success rate of Arizona vocational rehabilitation population in 1979; 67% was selected as the expected frequency. The Chi-square statistics were not significant.

## Number and Chi-Square Statistics for Single Treatment Modality

Variable	Number	Chi-Square <sup>a</sup> (contingency coefficient)
Psychotherapy/ Remediation	23	.225
Psychotherapy/ Vocational training	71	.066
Psychotherapy/ Counseling	35	.025
Remediation/ Vocational training	74	.121
Remediation/ Counseling	38	.163
Vocational training/ Counseling	36	.047

<sup>a</sup>The success rate of the Arizona vocational rehabilitation client in 1979; 67% was selected as the expected frequency. None of the Chi-square statistics were significant.

Table 3

Summary of Average Treatment Duration, Age, Gender, Race, Years of Education, Percent of Severely Disabled, Amount Invested, and Marital Status of Clients Who Received a Single Service Presented by Treatment Modality

	$\bar{X}$ Months in Treatment	$\bar{X}$ Age	Male	Female	Race*	$\bar{X}$ Ed	% Severely Disabled	$\bar{X}$ Money + \$ Spent	M	S
<u>Remediation</u>										
Rehabilitated	5.28	19.42	4	3	W-7-	9.42	28.57	1953.57	0	7
Not rehabilitated	4	23.66	4	2	B-1, W-5	10.66	16.66	804.83	2	4
<u>Psych. Therapy</u>										
Rehabilitated	5	22.33	4	2	W-6	11.83	66.66	1328.00	0	6
Not Rehabilitated	4	21	4	0	H-1, W-3	10.50	50	784.5	2	2
<u>Counseling</u>										
Rehabilitated	20.5	22.31	12	4	H-4, B-1	10.50	25	595.18	1	15
Not Rehabilitated	15.66	19	4	5	H-1, B-2, W-11	9.88	22.22	393.77	0	9
<u>Voc. Training</u>										
Rehabilitated	5.59	21.14	26	16	W-35, 1-1, H-4, B-2	10.61	42.85	1895.88	4	38
Not Rehabilitated	7.15	23.26	15	4	H-2, B-2, W-14, I-1	10.57	47.36	2032.31	3	16

\*B = Black, H = Hispanic, I = Indian, W = White. + Money is U.S. dollars. M = Married. S = Single.

Table 4

Summary of Average Treatment Duration, Age, Gender, Race, Years of Education, Percent of Severely Disabled, Amount Invested, Marital Status of Subjects Who Had Received a Multiple of Services

	<u>Psychotherapy**</u>	<u>Remediation**</u>	<u>Voc.** Training</u>	<u><math>\bar{x}</math> Age</u>	<u>Male</u>	<u>Female</u>	<u>Race</u>	<u><math>\bar{x}</math> Ed</u>	<u>%Severely Disabled</u>	<u><math>\bar{x}</math> Money+ \$ Spent</u>	<u>M</u>	<u>S</u>
Rehabilitated	5.81	5.22	8.14	25.43	7	9	W-15, H-1	11.56	37.5	2496.87	4	12
Not Rehab.	4.87	3.83	5.14	25.77	6	3	W-7 H-2	10.66	55.55	1930.77	1	8

\*\* In months. \*B = Black. H = Hispanic. W = White. + Money is U.S. dollars. M = Married. S = Single.

## SUMMARY OF FINDINGS

Based on the data collected and analyzed in this study and within the parameters of the population investigated, the following conclusions seem justified.

1. There was no significant difference in the incidence of employment between adult learning disabled vocational rehabilitation clients who have received counseling only from their vocational rehabilitation counselor and those who have received another treatment.

2. There was no significant difference in incidence of employment between adult learning disabled vocational rehabilitation clients who have received psychotherapy and those who have received another treatment.

3. There was no significant different in incidence of employment between adult learning disabled vocational rehabilitation clients who received learning disability remediation and those who have received another treatment.

4. There was no significant difference in incidence of employment between adult learning disabled vocational rehabilitation clients who have received vocational training and those who have received another treatment.

5. There was no significant difference in incidence of employment between the general vocational rehabilitation client and the learning disabled vocational rehabilitation client.

These finds were needed to formulate several conclusions and recommendations presented in Chapter 5.

## CHAPTER 5

### SUMMARY, CONCLUSIONS, RECOMMENDATIONS

A review of the literature revealed little research with respect to the learning disabled adult and no research examining the learning disabled vocational rehabilitation client. Until October 1981, there was no federal vocational rehabilitation coding specific to learning disability. In 1973, a coding was developed by Arizona Vocational Rehabilitation to cover learning disabled clients. That coding made it possible to track learning disabled clients through the rehabilitation process. All of the persons included as subjects in the present research were residents of Arizona and clients of the Arizona Division of Vocational Rehabilitation.

The present research was designed to determine if vocational rehabilitation services are useful to learning disabled adults in their efforts to become employed. The overall findings support continued provision of services to that population, as the success rate of the learning disabled adult does not vary significantly from the success rate of the general vocational rehabilitation population.

The results of this study suggest that rehabilitation plans drawn for learning disabled adults have resulted in about the same incidence of success as have plans developed for the general vocational rehabilitation population. The results also suggest no significant difference in success rate across treatments.

There appears to be at least two explanations for the failure of the success rates of the sample population to vary significantly from the general vocational rehabilitation population or across treatments:

1. Sixty-four percent of the learning disabled vocational rehabilitation clients were rehabilitated regardless of the treatment applied. This may be the less supportable position, as the treatment modality was not selected randomly. In each instance, the treatment was offered after differential diagnosis. In almost every instance, the counselor consulted with a psychologist and a person knowledgeable with respect to the selected modality prior to developing the Individualized Written Rehabilitation Program with the client.

2. The overall rehabilitation and the individual rehabilitation rates could be the result of the appropriate selection of treatment. One of the basic requirements to be met prior to development of an Individualized Written Rehabilitation Program is that the individual have a physical or mental disability which, for that individual, constitutes or results in a substantial handicap to employment (Guide, 1977). An assumption behind that requirement is that the individual

who received services would probably not be able to achieve and continue in suitable employment without vocational rehabilitation services. The Individualized Written Rehabilitation program varies from client to client, as it is an individualized approach to reducing the client's handicap to employment.

Demographic and other reported variables strongly suggest that learning disabled vocational rehabilitation client resembles the average Vocational Rehabilitation client in Arizona. An important variance to this similarity is that rehabilitated learning disabled vocational rehabilitation clients who receive a single treatment modality require an investment of about \$1,500, whereas, the general vocational rehabilitation client requires an investment of about \$2,200 to accomplish a rehabilitation. The learning disabled client who received multiple treatment modalities required an investment of approximately \$2,500. The necessity of providing multiple modalities and a higher investment may be an indication that those clients present a more serious level of disability. Ninety-one percent of the learning disabled clients were never married, as compared to 40 percent of the general vocational rehabilitation clients. This difference may be a function of age; the learning disabled clients tended to be several years younger than the general vocational rehabilitation population.

Those clients who received vocational training only and were not rehabilitated, continued in training longer than those who experienced that modality and were rehabilitated. That difference was the opposite of what occurred with the other modalities, including the

group which received more than one treatment modality.

Vocational training customarily has a programmed start and end date. The duration of the other modalities is determined by the judgement of interested professionals. The total cost of failing plans based on vocational training might be reduced with improved client progress monitoring, allowing plan adjustments prior to the programmed end date of the training program.

There was little difference in success rates across treatments, however, vocational training which presents a 69 percent success rate appears to be the strongest single treatment. Persons requiring vocational training only, may enter employment sooner than those who require remediation, with the balance of the treatment modalities possibly being preparations for employment.

Although not statistically tested there was a numerical difference in incidence of certification of severe disability between the learning disabled clients and the general vocational rehabilitation population. The designation, severely disabled, implies that the variables impeding a successful rehabilitation are more difficult to mitigate than with a client who is not severely disabled. In Arizona, approximately fifty-two percent of rehabilitated Vocational Rehabilitation clients are severely disabled. Of the rehabilitated learning disabled clients, forty percent of those who suffered a disability in addition to learning disability were severely disabled. Of the rehabilitated learning disabled clients who had only learning disabilities listed as their disability, twenty-five percent were severely disabled.

One of the findings of the present study was that the success rate

of plans drawn for learning disabled clients is about that of the rate found with the general vocational rehabilitation population. That finding appeared to be in conflict with the finding that a lower percentage of the learning disabled clients were severely disabled than were the general vocational rehabilitated population.

There are at least two explanations for the unexpected difference in incidence of severe disability between the rehabilitated learning disabled clients and the rehabilitated general Vocational Rehabilitation client. The proportion of severely disabled learning disabled clients may be lower than is found with the general Vocational Rehabilitation population. That difference would reduce the number of rehabilitated severely disabled learning disabled clients. A second explanation may be found in the criteria used to certify a client severely disabled. There are currently no federal guidelines specific to learning disability for determining if a Vocational Rehabilitation client is severely disabled. Present techniques used to determine severity may be finding a number of learning disabled vocational rehabilitation clients to be not severely disabled who are severely disabled.

Of particular interest is the time required to rehabilitate the learning disabled versus the general vocational rehabilitation population. Learning disabled clients were rehabilitated in approximately 13 months, whereas, the general vocational rehabilitation client in Arizona required an average of 20 months. This may suggest that the learning disabled client cost per rehabilitation may actually be lower

than the figures presented previously, if one considers that the costs per case represented only case services costs and not administrative, secretarial and other ancillary costs which accumulate simply by having a case open and active.

In summary, the results of the study suggest the following:

1. Rehabilitation plans developed for learning disabled adults are as likely to result in a rehabilitation as are plans written for the general vocational rehabilitation population.
2. Counselors attempting to rehabilitate the adult learning disabled client may find that, in the instance of those who require a single service only, total costs will be lower than the cost per rehabilitation with the general vocation rehabilitation population.
3. Learning disabled clients will be younger than the overall vocational rehabilitation population and few of them will ever have been married.
4. Clients who received counseling as a single service completed their program and were rehabilitated in about the same time as those who received the more expensive vocational training and remediation. This finding appears to support counseling services as provided by the Vocational Rehabilitation Counselor. One possible reason for the rate of employment with clients who received counseling only is that many of the counselors in Arizona have had extensive training in counseling and in job development. All of the counselors held a college degree and seventy percent of them held a masters degree.

5. With clients receiving vocational training, and other programs which have a specific length, the client's progress requires a level of monitoring more stringent than do those clients receiving the other service.

#### Recommendations for Further Research

It is important to the field of vocational rehabilitation that the implications associated with learning disability be examined. Specific recommendations for further research are as follows:

1. A study should be conducted to investigate the compensation methods utilized by learning disabled adults who were satisfactorily employed prior to application for vocational rehabilitation services. The literature frequently depicts compensation strategies as being negative. A systematic examination of compensation strategies evolved by the learning disabled adults may reveal successful patterns which could be adopted by other learning disabled adults.

2. A study should be conducted to determine if current criteria for certification of being severely disabled are not totally appropriate for the learning disabled population. As discussed on page 44 of the present study, the rehabilitation rate of the learning disabled clients was unexpectedly low when the low incidence of severe disability, as compared to the general vocational rehabilitation client population, is considered.

3. An investigation to determine if there is a relationship between the specific learning disability and the effectiveness of the treatment

modality should be conducted. The present study was not designed to examine a possible relationship between the learning disabled clients specific learning disability and success or failure with a particular treatment modality. If a trend appeared, assignment to the most favored treatment modality would be expedited.

4. A review of the diagnostic studies to be found in the subject cases may reveal predictor factors with respect to the design of an optional Individualized Written Rehabilitation Program.

#### Summary

This chapter discussed the data and the method used to analyze that data. The results, conclusion and discussion were also presented.

Although the literature emphasized the sparsity of research in this area, data was available. The conclusions of the study supported continued vocational rehabilitation service to the learning disabled adult. Future research was encouraged in the hope that the effectiveness of the Individualized Written Rehabilitation Program be increased.

APPENDIX A  
COMPOSITE AVERAGE OF DEMOGRAPHIC DATA OF SUBJECTS  
WHO RECEIVED A SINGLE SERVICE

APPENDIX A

Summary of Average Treatment Duration, Age, Percent of Males, Years of Education, Percent of Severely Disabled, Amount Invested, Percentage of Subjects Who Have Never Been Married Who Had Received a Single Service:

COMPOSITE AVERAGE

	<u><math>\bar{X}</math> Months in Treatment</u>	<u><math>\bar{X}</math> Age</u>	<u>% Male</u>	<u><math>\bar{X}</math> Ed.</u>	<u>% Severely Disabled</u>	<u><math>\bar{X}</math> Money<sup>+</sup> Spent</u>	<u>% Never Married</u>
Rehabilitated	9.09	21.30	65.00	10.59	34.43	1443.15	92.90
Not Rehabilitated	7.70	21.73	71.00	10.40	36.84	1005.35	81.60
Total of the Presented Variables	8.39	21.51	67.00	10.49	38.50	1224.25	88.90

<sup>+</sup>Money in U. S. Dollars

**APPENDIX B**  
**COMPOSITE AVERAGE OF DEMOGRAPHIC DATA OF SUBJECTS**  
**WHO RECEIVED MULTIPLE SERVICES**

APPENDIX B

Summary of Average Treatment Duration, Age, Percent of Males, Years of Education, Percent of Severely Disabled, Amount Invested, Percentage of Subjects Who Have Never Been Married Who Had Received Multiple Services:

COMPOSITE AVERAGE

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	<u><math>\bar{X}</math> Months in Treatment</u>	<u><math>\bar{X}</math> Age</u>	<u>% Male</u>	<u><math>\bar{X}</math> Ed.</u>	<u>% Severely Disabled</u>	<u><math>\bar{X}</math> money + Spent</u>	<u>% Never Married</u>
Rehabilitated	6.39	25.43	44.00	11.56	37.50	2496.87	75.00
Not Rehabilitated	4.61	25.77	67.00	10.66	55.50	1930.77	88.90
Total X of the Present Variables	5.50	25.60	52.00	11.11	44.00	2213.82	80.00

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+ Money in U.S. dollars.

APPENDIX C  
RAW DATA USED IN THE PRESENT STUDY

Refer to the following Appendices to decode data presented numerically:

Vocational Specialization, Prior Job, Job Post Closure: Appendix D  
 Self Reported Disability, Disability Coded on C.S.R.: Appendix E  
 First Three Digits of Subject's Social Security Number: Appendix F  
 Income, Prior Income: Appendix G  
 Work Status at Closure: Appendix H

REMEDICATION ONLY: REHABILITATED

Subjects	Time in Remediation (in months)	Prior Occupation	Self Reported Disability	First 3 Digits of Soc. Sec. No.	Age	Gender	Race	Marital Status	Dependents	Education at Referral*	Income Source at Referral	Monthly Income at Referral	Disability Codes	Severely Disabled	Work Status at Closure	Monthly Earnings at Closure	Occupation at Closure	Months between Referral & Plan	Months between Plan & Closure	Total Spent (in Dollars)
1	7	3016	699	526	23	F	W	S	0	MR	01	30	530699	Y	1	400	3543	4	25	1,845
2	3	NONE	699	526	16	M	W	S	0	9	18	0	699	N	1	424	5263	34	48	3,112
3	5	3186	699	526	20	M	W	S	0	12	01	120	699	N	1	520	7626	7	16	1,873
4	1	9296	699	526	17	M	W	S	0	10	18	50	699	N	1	800	8696	16	26	400
5	9	NONE	5XX	527	24	M	W	S	0	12	30	36	639689660	S	3	480	3896	2	30	3,000
6	6	2095	699	526	19	F	W	S	0	13	01	130	699	N	1	730	2095	3	15	1,780
7	6	0J00	510	527	17	F	W	S	0	2	08	0	699510	N	1	460	3111	4	12	1,665

REMEDICATION ONLY: NOT REHABILITATED

8	4	2383	370	431	53	M	B	W	3	13	01	115	370639520	N	8			23	33	809
9	4	2994	53X	527	17	M	W	S	0	10	01	50	699	N	8			7	20	412
10	3	NONE	5XX	499	18	M	W	S	0	12	18	0	522699	Y	8			6	13	865
11	2	NONE	699	527	18	F	W	M	0	10	18	0	699522	N	8			1	23	545
12	6	8696	699	526	19	M	W	S	0	11	18	0	699522	N	8			4	20	875
13	5	3111	699	526	17	F	W	S	0	8	18	0	522699	N	8			7	12	1,323

\* Education at referral: MR represents 8 years of education while attending a facility identified as serving the mentally retarded.

## PSYCHOTHERAPY ONLY: REHABILITATED

Subjects	Length of Psychotherapy (in Months)	Self Reported Disability	Age	Gender	Race	Marital Status	Dependents	Education	Inc per Source at Referral	Need for Referral	Disability Codes	Severely Disabled	Work Status at Closure	Monthly Earnings at Closure	Occupation at Closure	Months Per Year Referral & PFR	Months Per Year Referral & PFR (Total Grant Closure (in Dollars))			
1	9	7618	522	527	22	F	W	S	0	13	77	0	699	Y	1	668	7618	3	12	173
2	5	2904	522	526	19	M	W	S	0	11	01	105	522699	N	1	480	2904	1	7	1,884
3	5	NONE	36X	524	20	M	W	S	0	12	18	0	699510	Y	1	456	3166	47	72	4,156
4	2	2114	699	526	25	F	W	S	0	12	05	0	522699	N	1	464	7627	14	14	100
5	6	3826	149	526	31	M	W	S	0	14	01	20	510699	Y	1	460	3816	11	18	1,385
6	3	0J00	500	527	17	M	W	S	0	9	08	0	500699	Y	1	470	3186	3	6	270

## PSYCHOTHERAPY ONLY: NOT REHABILITATED

7	4	NONE	639	527	18	M	W	S	0	12	18	0	639532	Y	8			5	21	686
8	2	GOOD	5XX	527	21	M	W	S	0	12	18	0	522510699	N	8			3	14	400
9	6	NONE	379	527	25	M	H	M	3	7	01	152	379699	Y	8			4	20	300
10	4	3176	699	526	20	M	W	M	5	11	08	90	522699	N	8			4	20	1,752

## COUNSELING ONLY: REHABILITATED

Subjects	Prior Location	Self Reported Disability	Frat. & Soc. Sec. No.	Age	Gender	Race	Marital Status	Dependents	Education at Referral	Income Source at Referral	Weekly Income at Referral	Disability Codes	Severely Disabled	Work Status at Closure	Monthly Earnings at Closure	Occupation at Closure	Months between Referral & plan	Months between Referral & Closure (In Months)	
1	9056	699	526	16	M	H	S	0	9	08	0	699	N	1	450	9056	3	9	29
2	8626	39X	566	43	M	W	M	2	11	01	170	399510699	N	1	800	8626	3	9	300
3	NONE	660	527	21	F	B	S	0	11	38	0	660699	N	1	430	FACT	10	18	841
4	OJ00	699	528	34	M	W	S	0	9	18	0	522699	N	1	480	FACT	4	8	122
5	OJ00	699	510	17	M	W	S	0	10	18	0	699	Y	1	425	9198	3	34	2242
6	3111	699	526	20	F	W	S	0	12	18	0	699522	N	1	530	2994	3	14	27
7	FACT	226	505	22	F	W	S	1	11	48	0	699522220	N	1	520	2111	3	9	1200
8	6201	5XX	526	28	M	W	S	0	8	58	0	699521522	Y	1	480	6201	12	24	700
9	7362	639	268	26	M	W	S	0	11	88	0	500639	Y	1	485	3236	3	35	385
10	OJ00	699	526	20	M	W	S	0	12	01	72	699	N	1	560	4138	6	14	195
11	NONE	699	527	17	M	W	S	0	10	18	0	699	N	1	320	2233	6	38	609
12	NONE	530	527	17	M	W	S	0	11	17	0	699	N	1	425	4066	13	22	40
13	NONE	699	526	17	F	H	S	0	12	11	266	699522530	N	1	370	3263	42	56	266
14	OJ00	699	527	18	M	H	S	0	10	01	0	699510	Y	1	800	3166	9	15	1000
15	9296	699	526	18	M	W	S	0	7	18	0	699	N	1	670	9296	1	4	0
16	NONE	146	527	23	M	H	S	0	14	11	60	146522699	N	1	480	5906	2	19	1,567

## COUNSELING ONLY: NOT REHABILITATED

17	NONE	217	527	16	M	W	S	0	8	18	0	363222699	Y	8			14	33	383
18	NONE	699	526	17	F	B	S	1	8	08	0	699	N	8			9	16	150
19	8626	699	526	23	M	B	S	0	10	99	106	699	N	8			4	10	137
20	NONE	699	527	19	F	W	S	0	11	18	0	699	N	8			1	6	407
21	NONE	699	527	19	F	W	S	0	10	18	0	699	N	8			3	9	853
22	NONE	699	558	21	M	W	S	0	12	18	0	699	N	8			2	11	22
23	NONE	699	21	18	F	W	S	0	MR	18	0	699530	N	8			4	27	295
24	NONE	699	527	17	F	H	S	1	11	57	0	699522	N	8			4	18	432
25	3816	500	265	21	M	W	S	0	11	18	0	522699500	Y	8			8	11	379

## VOCATIONAL TRAINING ONLY: REHABILITATED

Subjects	Length of Training in Months	Vocational Specialization	Prison Location	Self Reported Disability	First J. Report of Soc. Sec. No.	Age	Gender	Race	Marital Status	Dependents	Education at Referral	Income Source at Referral	Weekly Income at Referral	Disability Code	Severely Disabled	Work Status at Closure	Monthly Earnings at Closure	Occupation at Closure	Months Between Referral & PFTM	Months Between Referral & PFTM (In 60 Days)	
1	3	7296	SSI	303	585	22	M	H	S	0	9	83	0	303149699	N	1	480	7263	2	43	2,077
2	3	3556	2993	699	527	22	F	W	S	0	13	8	60	699522149	N	1	448	3553	2	13	1,400
3	6	2095	NONE	699	526	17	M	W	S	0	9	18	0	699522610	Y	1	440	7803	3	12	3,725
4	3	9056	3186	639	527	18	M	W	S	0	12	31	0	630320699	Y	1	452	9056	5	18	2,888
5	6	8073	HS	53X	527	16	M	W	S	0	10	8	0	699	N	1	424	8076	9	60	3,501
6	6	GOOD	GOOD	5XX	540	33	F	W	S	1	10	38	0	699522637	Y	1	520	3211	16	26	2,079
7	13	6201	HS	669	947	18	M	H	S	0	12	17	0	699	N	1	372	6212	5	26	2,770
8	4	3558	2233	699	527	22	F	W	S	0	13	88	0	699522149	M	1	448	3558	2	13	252
9	2	MARC	HS	530	527	19	F	W	S	0	12	17	0	699	N	1	424	7792	5	11	636
10	3	9134	2226	399	526	30	M	W	M	5	7	78	0	399699	N	1	464	9134	25	32	353
11	11	GOOD	OJ00	689	526	29	F	W	S	0	11	18	0	689699	N	1	396	3188	3	17	2,508
12	2	4066	3186	699	512	21	M	W	S	0	12	18	0	699	N	1	200	4071	5	12	393
13	6	9056	3016	699	527	17	M	W	S	0	10	18	0	699	Y	1	424	9198	31	36	2,240
14	3	3016	3016	394	527	22	F	W	S	0	12	1	112	610611699	Y	1	520	3556	1	7	1,605
15	3	GOOD	NONE	522	527	16	F	W	S	0	MR	58	0	530699	Y	1	424	3236	19	32	1,408
16	3	GOOD	5796	699	526	18	F	W	S	0	11	17	0	699522	N	1	430	2306	3	21	4,186
17	6	6202	4081	699	526	17	M	W	S	0	11	17	0	699640	N	1	424	2223	6	20	2,004
18	5	3186	2114	530	526	18	F	W	S	0	12	18	0	699522	N	1	420	2095	7	14	1,600
19	9	3322	NONE	510	326	16	F	W	S	0	8	18	0	699	N	1	464	0993	9	27	1,862
20	2	9008	OJ00	5XX	527	21	M	W	S	0	9	1	0	510522699	Y	1	560	9068	3	24	2,900
21	2	7298	OJ00	319	565	37	M	W	M	8	8	18	0	399510699	Y	1	600	6098	1	5	800
22	1	2114	NONE	699	527	19	M	W	S	0	12	18	0	22699510	Y	1	464	2114	2	9	599
23	7	6202	6396	699	527	18	M	W	S	0	12	18	0	699	N	1	425	6206	4	15	2,065
24	7	GOOD	HS	53X	526	18	M	W	S	0	12	18	0	699500	N	1	228	3186	6	7	3,360
25	17	8116	OJ00	699	526	16	M	I	S	0	11	17	0	699	N	1	467	8993	4	23	1,751
26	17	8116	OJ00	699	526	17	M	B	S	0	11	17	0	699	Y	1	404	3826	5	28	1,640
27	8	8116	NONE	699	390	19	M	W	S	0	11	17	0	510699	Y	1	840	5616	11	36	4,682
28	4	7003	NONE	699	527	19	M	H	S	0	8	18	0	699510	Y	1	470	3698	27	31	1,564
29	4	GOOD	OJ00	5XX	527	21	M	W	S	0	9	18	0	510522699	Y	1	560	9068	3	14	2,814
30	5	3166	7114	699	527	17	M	W	S	0	11	18	0	699522	N	1	500	9208	1	5	444
31	5	2233	HS	699	949	17	F	W	S	0	11	17	0	699129	N	1	400	3558	5	24	1,296
32	7	GOOD	HS	530	526	18	M	W	S	0	11	17	0	699	N	1	390	3188	9	19	1,722
33	10	MARC	NONE	53X	527	21	M	W	S	0	12	18	0	699	Y	1	425	8448	7	20	2,290

## VOCATIONAL TRAINING ONLY: REHABILITATED

Subjects	Length of Training in Months	Vocational Specialization	Prior Location	Self Reported Disability	Flight 3 of Soc. Sec. No.	Age	Gender	Race	Marital Status	Dependents	Education	Income at Referral	Weekly Income at Referral	Disability Codes	Severely Disabled	Work Status at Closure	Monthly Earnings at Closure	Occupation at Closure	Months Permitted to Refer to Payer	Months Permitted to Refer to Payer (Total Benefit in Dollars)	
34	1	5906	HS	699	526	20	M	W	S	0	12	18	0	699	N	1	429	3733	6	11	736
35	5	MARY	3816	699	504	36	M	W	D	6	MR	78	0	530522699	Y	1	424	3816	4	9	100
36	4	2904	2904	522	526	27	M	W	M	2	12	18	0	399699	N	1	920	2994	5	12	349
37	5	GOOD	NONE	5XX	551	32	F	W	S	0	12	18	0	699	Y	1	400	2095	10	25	7,576
38	1	GOOD	OJ00	699	526	28	F	W	S	1	10	78	0	500699	Y	1	290	9134	4	13	157
39	13	GOOD	3186	5XX	526	20	M	B	S	0	11	18	0	699522	N	1	424	5263	4	12	2,238
40	5	3186	3186	53X	527	19	F	W	S	0	12	18	0	699522	N	1	500	3194	3	19	864
41	5	1323	NONE	699	527	17	F	W	S	0	11	17	0	699522	N	1	465	2223	5	10	1,218
42	3	MARY	NONE	334	519	20	F	H	S	0	8	18	0	335699	Y	8	438	2095	4	16	975

## VOCATIONAL TRAINING ONLY: NOT REHABILITATED

43	2	2035	0230	689	345	39	M	W	M	1	16	18	0	639689	Y	8			27	36	299
44	11	GOOD	3186	53X	278	21	M	I	M	2	9	18	0	510699	Y	8			4	26	1,415
45	6	6202	NONE	699	527	16	M	W	S	0	8	18	0	699522	N	8			6	13	2,867
46	8	GOOD	NONE	699	369	18	M	W	S	0	12	17	0	699	Y	8			4	16	2,713
47	6	9008	9196	53X	350	45	M	W	S	0	9	18	0	699639689	N	1			4	10	782
48	6	7806	3016	530	527	19	M	W	S	0	12	38	0	699522	Y	8			4	14	3,278
49	1	GLEN	NONE	5XX	527	20	F	W	S	0	12	18	0	699	Y	8			7	36	3,747
50	18	MARY	NONE	699	526	18	M	W	S	0	12	17	0	699	N	8			6	24	3,888
51	2	GOOD	HS	699	526	16	F	B	S	0	8	18	0	639699	N	8			8	24	1,800
52	1	GOOD	3186	39X	526	21	M	H	S	0	12	18	0	149522699	Y	8			14	16	2,000
53	7	0992	0992	522	248	34	F	W	N	2	7	16	0	510699	Y	8			6	26	3,686
54	2	6250	OJ00	699	526	16	M	W	S	0	14	58	0	522699	N	8			6	25	1,567
55	6	CAGW	NONE	530	482	20	F	W	S	0	12	11	0	530699	Y	8			11	32	4,000
56	8	6206	OJ00	522	527	25	M	H	S	0	11	01	130	699	N	8			3	11	400
57	8	3186	4081	53X	527	25	M	W	S	0	MR	18	0	699	N	8			4	8	1,144
58	18	8696	2904	38X	527	21	M	B	M	2	11	16	0	699	N	8			4	38	2,301
59	9	7806	NONE	699	527	17	M	W	S	0	10	58	0	699522	N	8			6	24	1,408
60	12	GOOD	OJ00	522	526	17	M	W	S	1	11	18	0	699522	N	8			9	11	692
61	5	2223	3186	530	474	34	M	W	S	0	7	17	0	699510	Y	8			10	24	627

## MULTIPLE SERVICES: REHABILITATED

Subject	Length of Psychotherapy (In Months)	Length of Remediation (In Months)	Length of Training (In Months)	Specialization	Prior Location	Self Reported Disability	First Sgt. Rating	Age	Gender	Race	Marital Status	Dependents	Education at Referral	Income Source at Referral	Weekly Income	Disability Codes	Severely Disabled	Work Status at Closure	Monthly Earnings at Closure	Occupation at Closure	Months Perceptual Motor Plan	Months Perceptual Motor Plan (Total Spent in Dollars)	
1	8	6	4	0172	5096	643	564	49	M	W	S	0	9	18	0	642510699	Y	1	437	8013	7	20	2306
2	2	2	-	-	0J00	699	155	34	M	W	M	1	12	18	0	699141	N	1	640	8018	1	17	1600
3	6	-	3	7298	2031	510	344	27	F	W	M	1	8	18	0	510699	Y	1	544	7298	3	8	1200
4	-	14	11	3322	HS	699	527	18	F	W	S	0	11	17	0	699	N	1	360	3322	35	58	3500
5	-	2	6	7123	6202	39X	553	33	M	H	M	5	12	18	0	510699	Y	1	720	4066	7	40	6409
6	-	2	8	3161	NONE	699	526	25	F	W	S	0	12	18	0	699	N	1	440	3176	31	42	2153
7	5	-	5	8018	NONE	699	141	18	M	W	S	0	12	17	0	699522	Y	1	560	8018	8	21	4041
8	13	-	5	0J00	0J00	699	526	20	M	W	S	0	12	18	0	630699	Y	1	465	0J00	30	39	70
9	2	3	-	-	3556	510	480	24	F	W	S	0	12	01	116	510699	N	1	500	0793	3	20	1,700
10	5	-	5	0761	NONE	522	527	22	F	W	S	0	13	07	0	699	N	1	668	7618	5	12	1,500
11	16	-	15	G000	3016	5XX	527	21	M	W	S	0	9	18	0	510522699	Y	1	560	9068	6	25	1,000
12	2	-	8	7852	3114	699	214	23	F	W	S	0	12	01	60	699522	N	1	460	7866	4	14	3,882
13	3	8	10	3547	1323	510	480	24	F	W	S	0	12	01	116	510699	N	1	664	3543	2	26	4,016
14	2	-	5	G000	2111	699	526	20	F	W	S	0	12	18	0	522699	N	1	404	3627	1	17	1,053
15	-	7	23	9992	0J00	699	527	30	M	W	M	2	15	01	50	699639	N	1	540	9992	3	31	4,545
16	-	3	6	7853	NONE	699	526	19	F	W	S	0	12	01	0	699522	N	1	670	7853	4	16	975

## MULTIPLE SERVICES: NOT REHABILITATED

17	8	6	3	GOOD	NONE	522	527	28	F	W	S	0	11	18	0	699	Y	8			2	20	3014	
18	2	4	-	-	3106	699	522	18	F	W	S	0	10	01	0	699	N	8				2	14	688
19	1	-	1	1861	1861	5XX	291	49	M	W	S	0	14	18	0	522	N	8				13	16	-
20	3	-	3	GOOD	NONE	5XX	527	17	M	W	S	0	10	08	0	522699	Y	8				13	30	1755
21	3	2	3	GOOD	HS	527	535	23	M	W	S	0	12	38	0	639699	Y	8				7	17	1954
22	13	5	4	9992	0J00	639	542	22	M	W	S	0	9	12	0	699522	Y	8				6	26	3686
23	3	3	-	-	NONE	5XX	477	24	F	H	S	0	12	18	0	522699	N	8				1	29	3100
24	6	-	16	PERY	NONE	5XX	526	17	M	W	S	0	10	58	0	522699639	Y	8				6	13	1500
25	-	3	6	8106	8106	699	527	34	M	H	M	5	8	18	0	699	N	8				7	19	1680

## FOUR-DIGIT OCCUPATION AND TRAINING SPECIALTY CODES

0172	Technical Illustrator	3111	Waiter
0230	Physicist	3114	Waiter
0761	Recreational Therapist	3161	Meat Cutter
0793	Chiropractor Assistant	3166	Meat Cutter
0992	General Houseworker	3176	Salad Maker
0993	Teacher Aid	3186	Kitchen Helper
1323	File Clerk	3188	Dish Washer
1861	Bank Officer	3194	Food Assembler Kitchen
2031	Typist	3211	Housekeeper
2035	Mortgage Clerk	3236	Housecleaner
2095	Insurance Clerk	3322	Cosmetologist
2111	Cashier	3543	Home Attendant
2114	Railroad Station Agent	3547	Home Attendant
2223	Shipping Clerk	3553	Ambulance Attendant
2226	Shipping Checker	3556	Used Clothes Sorter
2233	Parts Clerk	3558	Nurses Aid
2306	Local Delivery	3627	Dry Cleaner
2383	Hotel Clerk	3698	Counter Clerk
2904	Sales Person	3733	Fireman
2993	Carpet Installer	3816	Janitor
2994	Cashier	3826	Janitor
3016	Day Worker	3896	Pest Control Worker
3106	Waiter	4066	Groundskeeper
		4071	Farmhand

## FOUR-DIGIT OCCUPATION AND TRAINING SPECIALTY CODES

4081	Landscaper	7627	Assembler
4138	Horseshoer	7792	Clay Products Molder
5096	Laborer General (Iron & Steel)	7803	Furniture Upholsterer
5263	Baker Apprentice	7806	Upholsterer (Furniture)
5563	Baker Apprentice	7852	Tailor
5616	Wood Preservative Applicator	7853	Dressmaker
5663	Lumber Yard Laborer	7866	Sewing Machine Operator
5796	Labor, Cement	8013	Machine Mover
5906	Etched-Circuit Processor	8018	Laborer, Iron Worker
6098	Machine Tool Operator	8073	Auto Body Work
6201	Automobile Mechanic	8076	Auto Body Work
6202	Automobile Mechanic	8106	Welder
6206	Automobile Mechanic Helper	8116	Welder
6212	Aircraft Mechanic	8448	Cement Worker
6250	Engine Repairman	8626	Plumber
6396	Bicycle Repair	8696	Construction Worker
7003	Ring Maker	8993	Building Maintenance
7114	Eyeglass Lens Grinder	9008	Construction Worker
7123	Dental Lab Technician	9056	Truck Driver
7263	Parts Inspector (Assembly Line)	9068	Truck Driver
7296	Electric Sign Assembler	9134	Bus Driver
7298	Electronics Assembler	9196	Light Duty Truck Driver
7362	Small Arms Repairman	9198	Truck Driver
7618	Cabinet Maker Apprentice	9208	Dry Cleaning Worker
7626	Assembler (Woodshop)	9296	Tractor Driver

APPENDIX D  
FOUR-DIGIT OCCUPATION AND TRAINING  
SPECIALTY CODES

### TRAINING SPECIALTY CODES

GOOD	Goodwill Industries; Phoenix, Arizona
H.S.	High School Student
MARY	Maryvale Rehabilitation Center; Glendale, Arizona
PERRY	Perry Rehabilitation Center; Phoenix, Arizona
OJOO	Odd Jobs
FACT	Factory, Assembly; Entry Level

APPENDIX E  
DISABILITY CODES

## DISABILITY CODES

Visual Impairments

(12X: Blindness, one eye, other defective (better eye with correction in less than 20/60, but better than 20/200, or corresponding loss in visual field)

129 Ill-defined and unspecified causes

(14X: Other visual impairments)

141 Glaucoma

146 Congenital malformations

149 Ill-defined and unspecified causes

Hearing Impairments

(20X: Deafness, unable to talk)

216 Congenital malformations

(22X: Other Hearing impairments)

220 Degenerative and other non-infectious and specified diseases of ear

222 Upper respiratory infections and other infectious diseases

226 Congenital malformations

Orthopedic Deformity or Functional Impairment, Except Amputations

(30X,31X: Impairment involving three or more limbs or entire body)

303 Other diseases, infectious and non-infectious, other infections (including local), and other neurological and mental diseases

319 All other accidents, injuries, and poisonings

(32X, 33X: Impairment involving one upper and one lower limb)

320 Cerebral palsy

334 Poliomyelitis

- 335 Muscular dystrophy  
(36X: Impairment involving one or both lower limbs including feet and toes)
- 363 Other diseases, infectious and non-infectious, other infections (including local), and other neurological and mental diseases  
(37X: Impairment involving one or both lower limbs (including feet and toes))
- 370 Arthritis and rheumatism
- 379 All other accidents, injuries, and poisonings  
38X, 39X: other and ill-defined impairments(including trunk, back and spine)
- 394 Poliomyelitis
- 399 All other accidents, injuries, and poisonings
- 5XX: Mental, Psychoneurotic and Personality Disorders
- 500 Psychotic disorders
- 510 Psychoneurotic disorders
- 520 Alcoholism
- 521 Drug addiction
- 522 Other character, personality, and behavior disorders  
(53X: Mental retardation)
- 530 Mental retardation, mild
- 532 Mental retardation, moderate
- Other Disabling Conditions for Which Etiology is Not Known or Not Appropriate
- (61X: Allergic, endocrine system, metabolic and nutritional disease)
- 610 Hay fever and asthma

- 611 Other allergies  
(63X: Other specified disorders of the nervous system)
- 630 Epilepsy
- 639 Other disorders of the nervous system, not elsewhere classified  
(64X: Cardiac and circulatory system conditions)
- 640 Congenital heart disease
- 642 Arteriosclerotic and degenerative heart disease
- 643 Other diseases or conditions of the heart  
(66X: Digestive system conditions)
- 660 Conditions of teeth and supporting structures  
(68X: Speech impairments)
- 689 Other speech impairments (except code 685, aphasia resulting  
from stroke)  
(69X: Disabling diseases and conditions, not elsewhere classified)
- 699L Learning disability. As mentioned earlier in this paper, 699L is a temporary measure to allow coding of learning disabilities and is used only in Arizona, pending implementation of a nationally recognized coding to cover that disability group.
- 524 Learning disability. This is a new coding implemented nationally in October, 1981.

APPENDIX F  
STATE WHERE CLIENT RESIDED AT TIME OF ASSIGNMENT  
OF SOCIAL SECURITY NUMBER

STATE WHERE CLIENT RESIDED AT TIME OF ASSIGNMENT  
OF SOCIAL SECURITY NUMBER

NEW HAMPSHIRE 001, 002-003	ALABAMA 416-420, 421-424
MAINE 004-007	MISSISSIPPI 425-428, 587
VERMONT 008,009	ARKANSAS 429-432
MASSACHUSETTS 010-034	LOUISIANA 433-438, 439
RHODE ISLAND 035-038, 039	OKLAHOMA 440-447, 448
CONNECTICUT 040-043, 044-049	TEXAS 449-459, 460-467
NEW YORK 050-134	MINNESOTA 468-470, 471-477
NEW JERSEY 135-158	IOWA 478-485
PENNSYLVANIA 159-202, 203-211	MISSOURI 486-500
MARYLAND 212-220	NORTH DAKOTA 501, 502
DELAWARE 221, 222	SOUTH DAKOTA 503-504
VIRGINIA 223-230, 231	NEBRASKA 505-508
WEST VIRGINIA 232-236	KANSAS 509-513, 514-515
NORTH CAROLINA 232, 237-246	MONTANA 516-517
SOUTH CAROLINA 247-251	IDAHO 518-519
GEORGIA 252-253, 260	WYOMING 520
FLORIDA 261-267	COLORADO 521-524
OHIP 268-283, 284-302	NEW MEXICO 525, 585
INDIANA 303-315, 316-317	ARIZONA 526-527, 600
ILLINOIS 318-349, 350-361	UTAH 528-529
MICHIGAN 362-377, 378-386	NEVADA 530
WISCONSIN 387-394, 395-399	WASHINGTON 531-539
KENTUCKY 400-406, 407	OREGON 540-541, 542-544
TENNESSEE 408-409, 410-415	CALIFORNIA 545-573
	HAWAII 575-576

APPENDIX G  
SOURCES OF SUPPORT

## SOURCES OF SUPPORT

- 0 Current Earnings, Interest, Dividends, Rent
- 1 Family and Friends
- 2 Private Relief Agency
- 3 Public Assistance, At Least Partly with Federal Funds (SSI, ADC)
- 4 General Assistance (Without Federal Funds)
- 5 Public Institution - Tax Supported
- 6 Workmen's Compensation
- 7 Social Security Disability Insurance Benefits
- 8 All Other Public Sources (VA, UI, BIA, or Tribal GA, Civil Service Comp - OWCA)
- 9 Annuity or Other Non-Disability Insurance (Private Insurance)
- 10 All Other Sources of Support (Savings, Other Private Disability Insurance)

APPENDIX H  
WORK STATUS AT CLOSURE

## WORK STATUS AT CLOSURE

- 1 Competitive Labor Market
- 2 Shelter Workshop
- 3 Self-Employed
- 4 State Agency
- 5 Homemaker
- 6 Unpaid Family Worker
- 7 Student
- 8 Other
- 9 Trainee (non-competitive)
- X Unknown

APPENDIX I  
FORM ON WHICH DATA WAS RECORDED





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