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ABSTRACT

This special issue on vocational and social inclusion of people with disabilities includes papers with the following titles and authors: "Applying Theories of Career Behavior to Special Populations: Implications for Secondary Vocational Transition Programming" (Jay W. Rojewski); "Familiarity with the Service System and Perception of Needs at Transition" (Richard I. Goldbaum and others); "Avoiding Inappropriate Referrals of Minority Language Learners to Special Education: Implementing a Prereferral Process" (Paul C. Kavanaugh); "Integration PLUS: A Community Based Social Learning Program for Youth with Mental Retardation and Physical Aggression" (Patrick J. Schloss and others); "Striving for Development: An Overview of Special Education in Mexico" (Pedro Sanchez-Escobedo); "Promoting Postsecondary Education for High School-Aged Youth with Disabilities: Influencing Teacher Attitudes, Developing Teacher Knowledge" (Robert J. Miller and others); "Characteristics of Services Provided by Two-Year Colleges That Serve Students with Learning or Cognitive Disabilities in Highly Effective Ways" (John Gugerty); "Postsecondary Vocational Education--Does It Really Make a Difference?" (Patricia L. Sitlington and others); and "Effectiveness of Special Education Programs--Deriving Empirical Strategies for Efficient Resource Allocation" (Howard L. Garber and others). (Each paper contains references.) (JDD)

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ISSUES in SPECIAL EDUCATION & REHABILITATION

SPECIAL ISSUE

GUEST EDITOR - PAUL RETISH

VOCATIONAL & SOCIAL INCLUSION

THE KUNIN - LUNENFELD CHAIR OF SPECIAL EDUCATION
SCHOOL OF EDUCATION - UNIVERSITY OF HAIFA

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ISER

Issues in Special Education & Rehabilitation

Volume 9
Number 1
1994

The Kunin-Lunenfeld Chair of Special Education
School of Education, University of Haifa

Issues in Special Education and Rehabilitation

Issues in Special Education and Rehabilitation is a scientific journal compiled of original contributions in the field of education, treatment and rehabilitation of children and adults with special needs.

Manuscripts accepted for publication describe research, offer professional opinions of experts on controversial issues and present new projects. The latter should intergate theory with practice. Priority will be given to papers focusing on current problems and issues with a scientific, experimental and theoretical orientation.

The ideas and opinions presented are those of the authors only, and do not necessarily represent the philosophy of the editors.

Editorial

When Dr. Shunit Reiter asked me to be the guest editor of ISER I realized I faced a formidable challenge. Dr. Reiter asked me to put together a series of articles that would challenge the readers and address contemporary issues. I elaborated on this challenge to publish not for the sake of publishing and, therefore, I wanted authors to extend what has already been researched. I did not want to be a party to publishing more of the same but rather publish pieces that delved into new areas, challenged established thought, and extended contemporary thinking.

As I called, sent letters, or was approached by potential authors, I posed the following challenge. Are you interested in submitting a new piece that extends the thoughts of today's special educators and also questions what had become the absolute of contemporary special education? For some this was viewed as an opportunity while others decided not to take advantage of this opportunity.

What follows are the fruits of this search. We hope you find the reading and ideas as stimulating as I found the process of selection. Two of the articles in these pages represent innovative work done outside of the USA. In Israel, individuals with disabilities are putting out this Journal and other activities and this process is described. The emerging areas of special education in Mexico is also included which describes the evolution taking place as well as the pitfalls that have been and will be faced as special education gains acceptance.

Kavanaugh reflects on the populations found in special education and the ongoing problems of over – representation of persons of color. Though this is not startingly new information, the perspective is new and seems appropriate that once again raise an issue that we are familiar with but continue to ignore. In light of the icreasing emigration into the USA, this issue once again needs to be highlighted.

Post secondary services is the topic for the next series of articles. Perspectives from service providers in the community are presented by the article of Goldbaum et al while Sitlington et al discuss the ongoing results of state wide survey and the impact of the data collected. These two articles represent the most fundamental of partnerships — State Departments, Universities and Service Delivery Agencies.

Miller and his colleagues and Gugerty discuss the services available, usefulness to the individuals, and which services are most wanted and used by the people themselves. Issues in post-secondary education, after graduation and next and usefulness of curriculum are discussed in depth.

Alper and her colleagues look at the integration movement and combine this process with community actions. This article tries to tie together the process of teaching persons to live and work together and combines the academic and the practical. The issue of existing realities that the developmentally disabled face on a daily basis is addressed and explored, and strategies for daily living are discussed.

Garber discusses the roots of the problems: money, funds, and usefulness. His analysis of how money is developed for strategies and the actual spending of money at the local level is illuminating. More and more we hear of reevaluating the funding level for special

education and determining whether the money being spent is worth the energy. This question, among others, is fundamental to continuance of special education.

If we were to take the isolated ideas and results of some of the research done on special education in the last 10 years, serious questions regarding the level of funding and what impact this has had on the lives and future of persons with disabilities could be raised*. Are we a system that has its own momentum for survival which does not take into account our impact on those with disabilities? Surely we have done well with many persons, but we also have done not as well with many others. The score is about even so we should just continue. When and what is the balance? The research on these pages are not end points but we hope that they will add to the many beginnings that we have in publication. Of course this raises questions regarding who reads and uses what is published? We need to make concerted efforts to move to the next step of using the research for action, based upon sound understanding of the limited conclusions we now have. Only when we have changed, because of what we know, will the articles that appear in this and other Journals truly enrich the lives of person' with disabilities.

*As a tax payer, one can't help but wonder if money could be spent in a bettter, efficient and more productive manner.

Paul Retish
The University of Iowa.

ISER

Issues in Special Education & Rehabilitation

Contents

Despite Mental Handicap

Learning to cope with adult daily life

Edited by H.C. Gunzburg

A monograph of The British Journal of Developmental Disabilities, Stratford-on-Avon: SEFA; 138 pages, 4 Fig., 25 Tables; Price £9.00

CONTENTS: Target Setting - Control Measures: "Normal home environments" indifferent or stimulating? A sixth form college for mentally handicapped adolescents; Monitoring progress - Wentwood statistical analysis; "Wentwood Education" - analysis of environmental, social and educational assessments; Personalisation through Social Education; A pathway to greater independence?

This monograph presents a very readable account of a remarkable educational demonstration teaching adults with a mental handicap to cope with life in the open community. Wentwood Education prepared during ten years 63 students in two years courses to stand on their own feet and to become confident young men and women despite the disadvantages resulting from their handicap. Their day to day life and educational curriculum have been described in detail, their very modest skills at arrival at the "College" and their acquisition of new competencies have been meticulously recorded and provide the scientific evidence for supporting the operational philosophy that a methodical, aim - directed approach can succeed in giving severely mentally handicapped adult people the confidence and ability to tackle "normal" life situations.

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Issues in Special Education & Rehabilitation. Vol. 9, No. 1, 1994, pp. 7-26

Applying Theories of Career Behavior to Special Populations: Implications for Secondary Vocational Transition Programming

Jay W. Rojewski

Abstract: Much of the literature on transition from school to work for adolescents from special populations reflects a systems change or systems analytic perspective which views individual career-related difficulties as a reflection of problems in broader social systems (i.e., systemic problems inhibit the capacity of schools or other institutions to deliver effective programs and services). While this position is valid and makes important contributions to our understanding, other theoretical perspectives may also provide unique and valuable insights into the career behavior of adolescents from special populations and should not be neglected. The author of this article examines the contributions of prominent career theories to an understanding of career behavior in adolescents who experience learning disabilities or are economically disadvantaged. In addition, the application of major theoretical concepts and principles toward developing vocational transition programs and counseling interventions are examined. This review may provide a base for future research and practice, and contribute to a more comprehensive understanding of career behavior in adolescents from special populations.

Introduction

During the past decade preparing youths for the transition from school to work has evolved from a national priority to a mandated component of educational planning for all adolescents with disabilities. More recently, growing concern has also been expressed about the transition of non-college bound youths, especially those who are economically disadvantaged[1] (U.S. Department of Labor, 1993; William T. Grant Foundation, 1988). This increased attention on preparing non-college bound youths for adult life has fueled an explosion of new secondary vocational and transition programs. And, while increased focus on the vocational preparation of diverse student populations has been beneficial, an overriding

1 Here, the term special populations refers to adolescents who have learning disabilities or are economically disadvantaged. These two groups share a number of similarities including learning characteristics and difficulties, problems encountered as they prepare for the transition from school to adultlife (Gardner, Beatty, & Gardner, 1984; Gottfredson, 1986), eligibility for secondary vocational special education programs, and lack of adequate theory to explain career behavior and development. While commonalities exist each group also experiences unique career-related problems and needs that must be acknowledged.

concern is yet to be adequately addressed: Why do we do what we do with regard to planning career and vocational programs for secondary-aged special populations? (Cummings & Maddux, 1987).

The research literature contains a wealth of investigations on the transition from school to work of special populations. Much of this research describes transition program components (What do we do or what has been done with regard to transition program development?), examines participant involvement through follow-up studies (How effective are transition programs for adolescents from special populations?), or investigates the effectiveness of federal and state policy efforts (Clark & Knowlton, 1987; Johnson & Rusch, 1993). Most of these studies reflect a systems change or systems analytic perspective toward vocational transition programs which view career-related difficulties as a reflection of problems in broader social systems. These systemic problems inhibit the capacity of schools or institutions to deliver effective programs and services (Halpern, Benz, & Lindstrom, 1992; Rusch, Kohler, & Hughes, 1992). This stance is understandable and justified given the unique circumstances surrounding the emergence of school to work transition programming, the collaborative and political nature of service delivery, and the need for practical information that can be readily adopted by professionals. Knowledge generated from these types of studies is critical to the development of effective secondary vocational and transition programs.

Even so, other perspectives may also provide valuable insights that could contribute to more effective career counseling and vocational interventions for students from special populations and should not be neglected. Theories of career behavior (e.g., psychological-based theories) represent one such perspective. Unfortunately, discussions of theoretical perspectives that explain and predict the career behavior of special populations are somewhat limited in the professional literature (Conte, 1983; Curnow, 1989; LoCascio, 1974; Phillips, Strohmer, Berthaume, & O'Leary, 1983). As a result, substantive questions remain unanswered: What theoretical foundations and principles should be used to guide the development of secondary vocational special education and transition programs or career counseling interventions for students from special populations? To what degree can current theories be used to explain and predict the career behavior of adolescents from special populations?

Carr and Kemmis (1986) suggested that the methods and procedures employed by a profession should be based on a body of theoretical knowledge and research. Without a solid theoretical foundation, program and counseling interventions may be based on a method of trial and error, governed more by what feels good or sounds right at the time; as opposed to the development of techniques or strategies based on proven theoretical foundations. Despite the argument for theoretically-based programming, Cummings and Maddux (1987) feared that vocational and career preparation programs for youths from special populations have been based more on traditional and stereotypic views of individuals' capabilities rather than on any philosophical viewpoint. This assertion is supported by the fact that most existing career theories are based on relatively small samples of White, middle-class males that do not adequately reflect the career behavior of individuals from nontraditional populations (Gottfredson, 1986; Phillips et al., 1983).

To examine how dominant career theories might be used to enhance our understanding of career behavior in adolescents from special populations, this article is divided into several sections. First, assumptions held about the career

behavior of individuals from special populations are examined. Next, prominent theories of career behavior are reviewed. Concerns, inherent limitations, and the applicability of each theory toward a comprehensive explanation of the career behavior of adolescents from special populations are included. Relevant theoretical concepts and principles for the design of career counseling interventions and vocational transition programs are also highlighted.

Career Behavior of Special Populations

A prevailing theme in the literature on career choice and development centers on whether current theories of career behavior can be applied directly to adolescents with special needs. Two differing viewpoints have emerged. One view suggests that prominent theories are not applicable to special groups. Proponents of this view see the career behavior of persons from special populations as unique and unrelated to majority groups. Manuele (1983) explained that "tasks such as crystallizing and specifying a vocational choice may be unimportant when compared with the necessity of getting employment of any kind" (p. 47).

A second, more moderate, view advocates that traditional theories can be modified to explain the particular needs and situations encountered by adolescents with special needs (Osipow, 1976; Super, 1957). Supporters of this position believe that all individuals experience similar career development needs. They argue that constructing new theories to explain the unique circumstances of various special groups does more harm than good. "The stress on uniqueness has served to perpetuate an ad hoc and inconsistent approach to different special groups, and thus has continued to obscure rather than illuminate group differences" (Gottfredson, 1986, p. 141). The approach adopted for the present article reflects this second view.

> What is called for is not a separa
> theory of vocational development f
> [persons from special populations
> but rather a reexamination of curre
> theories in light of the observation th
> these theories may not in fact fit t
> data of exceptional or minority grou
> (Conte, 1983, p. 327).

The following sections examine thr
issues that influence our ability to app
current career theories to special pop
lations. First, widely-held but inaccura
assumptions about the career behavi
of individuals from special populatio
are examined. Second, the tendency
explain the career behavior of membe
of special populations from a deficien
("blame the victim") model is addresse
Gottfredson's (1986) framework is a
vanced as a viable alternative for int
preting the impact of at-risk factors
career behavior. Finally, specific issu
related to the career behavior of adol
cents who are learning disabled or e
nomically disadvantaged are reviewed

Assumptions That Limit Application of Career Theories to Special Populations

A number of misconceptions a
stereotypes exist regarding the career
havior of special populations. These
correct beliefs have diminished the i
portance of career-related issues a
discouraged serious efforts at applyi
theories of career behavior to youth w
special needs (Conte, 1983; Neff, 198
A brief examination of these assumptio
is important because professionals w
tacitly adhere to them are likely to p
petuate stereotypes that may arbitra
restrict or limit the career choices ma
available to individuals from spec
groups (Osipow, 1976).

A pervasive assumption about the
reer development of adolescents fr
special populations is the notion that
individual's special needs precludes
other aspects of vocational behavior; t

is, disability or socioeconomic disadvantage is the primary determinant of career behavior (Conte, 1983; Curnow, 1989). Those who support this notion tend to view particular careers as appropriate or inappropriate for adolescents simply on the basis of whether a disability or economic disadvantage is present (e.g., it would be better for a youth of lower socioeconomic status to go to a technical/trade school rather than a four-year college or university). Neff (1985) cautioned that while one's special needs may impair or restrict an individual's skills and abilities to perform particular types of work, they should not be the initial or sole basis for determining career alternatives or program enrollment.

A second assumption posits that the career behavior of special populations is unsystematic (not guided by developmental stages) and influenced primarily by chance. One conclusion from this thinking is that young people from special populations better take whatever kind of employment they can get - i.e., interventions designed to enhance career development are a waste of time (Osipow, 1976). A distinction between career and vocational development for at-risk populations illustrates this line of reasoning. Conte (1983) asserted that vocational development might be a more appropriate concept for some individuals with special populations in that they may never obtain long-lasting competitive employment, much less a planned, sequential career.

Osipow (1976)[2] warned that such inaccurate thinking could be used to justify the placement of youths with special needs in low wage, low-prestige work tasks without regard for individual strengths and interests. He also identified other fallacies commonly attributed to the impact of special needs on career behavior and choice including the notion that career development issues are not important, career options are limited, and that career development is a constantly stressful experience for members of special populations. Taken as a whole these inaccurate beliefs may, in part, explain the failure to apply theoretical career behavior concepts to individuals from special populations.

Alternative to the Deficiency Perspective of Career Behavior

General agreement exists that individuals from special populations tend to exhibit career behavior that is different than majority groups (Brooks, 1990). In the past, identified differences in career behavior and development were often viewed and interpreted as deficiencies. The practice of viewing differences from a deficiency or deficit perspective has been criticized in that it tends to blame individuals for factors beyond their control (e.g., discrimination) and focuses more attention on individual limitations rather than strengths (Gottfredson, 1986; Smith, 1975). It may be more appropriate to consider variations in career behavior as merely different rather than deficient.

As an alternative to the deficit model, Gottfredson (1986) asserted that everyone (not just special groups) experiences some type of career-related problems based on the degree to which certain risk factors are present. "Risk factors are attributes of the person or of the person's relation to the environment that are associated with a higher-than-average probability of experiencing the types of problems under consideration" (p. 143). Potential risk factors are organized into three main categories including factors used in comparisons with the general

2 Although observations by Osipow (1976) were originally targeted to persons with disabilities, his comments appear to be equally appropriate for individuals who are economically disadvantaged.

population (e.g., poor education, poverty, low self-esteem, functional limitations), factors used in comparisons within one's own social group (e.g., nontraditional interests, social isolation), and an individual's family responsibilities (e.g., being a primary caregiver or economic provider). Gottfredson hypothesized that the differential rates of risk encountered in each category had to be examined in order to understand and explain differences in career behavior.

Influence of Learning Disabilities and Economic Disadvantage on Career Behavior

Gottfredson's (1986) framework provides a basis for understanding the career behavior of adolescents who experience learning disabilities or socioeconomic disadvantage. This section builds on this understanding by examining (a) risk factors that individuals in these special groups are likely to experience and (b) the impact of these factors on career development and career choice.

Impact of learning disabilities. The career behavior of adolescents with learning disabilities is likely to be influenced by a number of the risk factors identified by Gottfredson (1986). Prominent risk factors used to compare the career behavior of disabled youths to the general population and to one another are briefly examined in subsequent paragraphs. The third category, family responsibility, does not represent a greater risk simply because of the presence of a learning disability.

Factors used to compare adolescents with learning disabilities to the general population may hold the greatest likelihood of posing career-related problems. Documented differences that exist between individuals with learning disabilities and the general population include poor academic skills, functional limitations, poor social skills, and low self-esteem. When compared with nondisabled peers, individuals with learning disabilities are often characterized as passive learners with specific academic-related problems including poor educational performance, poor organizational skills, test anxiety, perceptual problems, and limited attention span (Rosenthal, 1989; Sarkees & Scott, 1986).

Individuals with learning disabilities often experience difficulties in the social-personal domain which cause problems in career development and decision-making. Low self-esteem and low self-concept caused by repeated failure, limited social skill development, reduced success in living independently, and limited ability to act as a self-advocate are cited as major problems for this population (Dowdy, Carter, & Smith, 1990; Hudson, Schwartz, Sealander, Campbell, & Hensel, 1988). As a result, adolescents with learning disabilities often experience low social status among their peers (Dudley-Marling & Edmiaston, 1985).

Youths with learning disabilities are likely to experience one or more functional limitations such as difficulty in locating and maintaining employment (Siegel, Gaylord-Ross, Greener, & Robert, 1990) and problems adjusting to independent community living (Hudson et al., 1988). Studies have also shown this group to be less satisfied with their social lives, of lower socioeconomic status, more dependent on their families, and less likely to pursue postsecondary education than nondisabled peers. As a result of these limitations, youths with learning disabilities are more likely to have societal expectations play a role in determining their career behavior than nondisabled peers (Goldberg, 1992).

Adolescents with learning disabilities may also experience career-choice problems resulting from factors that are used to compare individuals within the same social circle. The severity of disability is one factor that may isolate an individual

with a learning disability from peers who are also learning disabled. In general, the impact of disability on adjustment and functioning increases as the disability becomes more severe (Hardman, Drew, Egan, & Wolf, 1993). In turn, increasing levels of severity place individuals at greater risk of social isolation and career choice problems. The severity of disability may also influence one's ability or motivation to develop realistic career choices.

The risk factors that adolescents with learning disabilities are likely to encounter can have a profound effect on career behavior. In general, this group experiences greater levels of affective and cognitive career immaturity than nondisabled peers (Bingham, 1980; Kendall, 1981). Rojewski (1993a) reported that adolescents with learning disabilities are less involved and more dependent on others for assistance in career decision-making. They also tend to experience greater difficulty in negotiating (i.e., compromise) between career-related needs and reality. In terms of cognitive skills, youth with learning disabilities have greater difficulty in self-appraisal and are less knowledgeable about the world of work than nondisabled counterparts.

The impact of risk factors on career behavior is, ultimately, evidenced in the occupations held by adults with learning disabilities. Gottfredson, Finucci, and Childs (1984) examined the employment patterns of several hundred young males with dyslexia and found them less likely to be employed in professional occupations and more likely to be in managerial or sales-related positions. The nature of jobs occupied by these individuals required less reading, writing, and related academic skills. Gottfredson et al. concluded that learning disabilities "appear[ed] to affect careers both by depressing the educational attainment required for much professional work and by decreasing the likelihood of entering professional work even if one [was] as well educated as others" (p. 366).

Impact of economic disadvantage. Adolescents who are economically disadvantaged may be affected by numerous factors that distinguish their career behavior from the general population. The impact of economic disadvantage tends to be pervasive and affects most areas of an individual's life. When compared to nondisadvantaged groups, adolescents from lower socioeconomic backgrounds are more likely to experience school failure, high drop out rates, high crime rates, teenage pregnancy, substance abuse, low self-esteem, and welfare dependency (Coulton & Pandey, 1992; Reed & Sautter, 1990). Garbarino (1992) noted that economic disadvantage also places youth at greater risk of cultural isolation from the community.

Youths who are economically disadvantaged are probably at no greater risk than other groups for experiencing career choice problems caused by factors involving "within-in group" differences. However, it appears that for many of these adolescents the probability of having family responsibilities is high, particularly for young women. Research shows a relationship between low socioeconomic status and a higher rate of teen pregnancy (Reed & Sautter, 1990). Not only are teen mothers less likely to earn a high school diploma, it is highly probable that they will drop out of school and experience extremely limited employment opportunities (Chase-Lansdale, Brooks-Gunn, & Paikoff, 1992). The career behavior of adolescent males who are disadvantaged may also be at risk because of family responsibilities. Brooks (1990) noted that careers of males who experience low socioeconomic status are often restricted because they are " less free to seek self-fulfillment in roles that do not produce income"(p. 389).

What is the impact of these risk factors on the career behavior of adolescents who are economically disadvantaged? Surprisingly, the influence of socioeconomic status on career behavior has not received as much attention as other issues. And, the literature that does exist presents somewhat conflicting results. One body of work implicates socioeconomic status as an important variable in determining career behavior (LoCascio, 1974; Manuele, 1983; Phillips et al., 1983; Westbrook, Cutts, Madison, & Arcia, 1980). Adolescents of low socioeconomic status tend to be less career mature than nondisadvantaged peers, are less involved in the career decision-making process, and possess limited information about the world of work (Rojewski, 1993b).

Not all research unanimously supports economic disadvantage as having a significant role in career behavior. Lawrence and Brown (1976) observed that socioeconomic status had less impact on career behavior than other variables such as race, intelligence, and gender. Likewise, Super (1990; Nevill & Super, 1988; Super & Nevill, 1984) maintained that work role salience (i.e., the relative importance of work) plays a more determinant role in career behavior than gender, race, or socioeconomic status. However, Brown (1990) criticized this conclusion by noting that "what [Super] has failed to do, is build propositions that, despite people's similarities in career maturity, can account for differences in career patterns observed in persons from lower socioeconomic groups" (p. 335).

Overview of Prominent Theories of Career Behavior

A number of psychological and nonpsychological theories have been advanced to explain and predict career behavior and choice. Theories that have generated the most attention over the past four decades include trait-factor theories, personality theory, developmental self-concept theory, social learning theory, and a sociological perspective (Brown & Brooks, 1990; McDaniels & Gysbers, 1992; Neff, 1985; Osipow, 1983). While each theory is distinctive, they all emphasize several common themes including biological factors, parental influences, outcomes, personality, methods, and life-stage influences (Osipow, 1990). Each of these major career theories are briefly reviewed next.

Trait-Factor Theories

Trait-factor theory posits that successful occupational outcomes result from matching individuals and work environments on measurable characteristics that each possesses. Situations where individuals and environments are closely matched (congruent) results in greater levels of satisfaction (McDaniels & Gysbers, 1992). Historically, the concept of matching individuals and environments has played a pivotal role in assessing career interests. However, this theory has been criticized for being largely atheoretical in nature, and for placing too much emphasis on the matching process to the exclusion of developmental and sociological concerns (Hackett, Lent, & Greenhaus, 1991).

Despite criticisms of trait-factor theory, no other explanation of career behavior has totally replaced this perspective (Borgen, 1986; Brown & Brooks, 1990). And, it seems appropriate to consider the possible contributions of the trait-factor approach for gaining a more comprehensive explanation of the career behavior of individuals from special populations. This may be particularly true as it relates to identifying appropriate career alternatives in broad occupational fields. Two well-recognized trait-factor (congruence) theories of career behavior may have relevance for adolescents from special populations including Holland's (1985) theory of work personalities and work environ-

ments, and work adjustment theory (Dawis & Lofquist, 1984).

Holland's theory of work personalities and work environments. Holland's (1985) theory of vocational personalities and work environments has probably been the most influential and highly researched theoretical perspective on career behavior in the past two decades (Hackett et al., 1991). According to Holland, job satisfaction and success occurs when an individual's particular interests and abilities are matched with an occupation that satisfies these interests and abilities. The theory views occupational behavior as the interaction between individual and work environment characteristics. Six work personality types and occupational classifications on six parallel constructs are used as a basis for determining the degree of congruence between an individual and a particular occupation.

Holland's (1985) theory establishes a cognitive-emotional basis for career guidance and counseling that incorporates an understanding of one's self, of select occupations, and their relationship. Yet, while Holland's theory may lend itself to practical application in guiding adolescents with special needs toward making appropriate career choices (Cummings & Maddux, 1987), it does little to help explain and, subsequently, shape the experiences and decisions that must occur in the years before a career choice is made (Navin & Myers, 1983). In fact, the theory is phenomenological and descriptive in nature rather than developmental (Neff, 1985).

Work adjustment theory. A second notable trait-factor theory is *the theory of work adjustment* (Dawis & Lofquist, 1984). Advocates of this theory emphasize the development and consequences of one's work personality on the degree of job satisfaction and tenure. This theory advances the notion that occupational adjustment is dependent on achieving a balance between an individual's work-related needs and job skills and the demands of a particular work environment. From this perspective, career choices are made in order to maximize one's sense of balance or harmony (i.e., correspondence with work environment). If an imbalance is perceived, workers will react to the environment in order to initiate change (Gajar, Goodman, & McAfee, 1993).

Work adjustment theory focuses on the work behavior of individuals from special populations (Neff, 1985) and can enhance our understanding of work adjustment, performance, and job satisfaction (Osipow, 1990). However, the primary contribution of this theory to vocational transition programming and career choice interventions for special populations is the relationship between individuals and chosen work environments rather than on the process of making a career choice. Conte (1983) noted that to be useful as a career development theory this approach would need to address the long-term relationship between a series of jobs and the way these jobs were chosen.

Personality Theory

Roe's (1956; Roe & Lunneborg, 1990) personality theory posits that people select careers in order to satisfy important psychological needs. These needs develop from the interaction of inherited characteristics, cultural background, socioeconomic status, and environmental conditions. One environmental condition of particular importance is that of parental child-rearing practices. Roe believes that parental child-rearing practices both satisfy and frustrate a child's needs. The pattern established by satisfying or not satisfying needs results in a needs-hierarchy. It is this hierarchy that impacts an individual's personality and, ultimately, channels career attention and interests. Thus, career choice is an attempt to sat-

isfy a need (personality) structure established in early childhood.

Roe's (1956) theory has received mixed empirical support and possesses limited usefulness for career guidance primarily because of the importance placed on early childhood experiences. The theory is further limited by a focus on occupational choice rather than career development (Hackett et al., 1991; Osipow, 1983). However, one aspect that may be relevant to special populations is the concept of the relative influence of four variable sets on career behavior. Roe and Lunneborg (1990) grouped potential career behavior influences into four categories: factors outside of individual control, under partial control, under partial control with diminishing influence, and personal characteristics. Roe devised a formula that weights each of these factor sets to account for differing degrees of influence at various life stages. For example, variables outside of individual control have limited influence on career behavior during the exploration stage, but exert considerable influence during the establishment stage. Similarly, factors that gradually diminish in impact (e.g., peer group) are highly influential during exploration but exert limited influence during later developmental stages.

Developmental Self-Concept Theory

Proponents of developmental theory posit that career development is an interactive and dynamic process that focuses on developing and implementing one's occupational self-concept through synthesis and compromise. The most comprehensive developmental theory was proposed by Super (1957, 1974) who viewed his theory as a synthesis of ideas and concepts "taken from developmental, differential, social, personality, and phenomenological psychology and held together by self-concept and learning theory" (Super, 1990, p. 199). According to Super, an individual's career development can be traced through five stages including growth (childhood), exploration (adolescence), establishment (young adulthood), maintenance, and decline. He postulated that certain vocational tasks must be accomplished at each distinct stage according to defined and predictable sequences. For example, a primary outcome of the growth stage involves the formation of attitudes and behaviors critical to future work and careers. The exploration stage is characterized by a progressive narrowing of career options from fantasizing about possible careers to identification of tentative career options to final decisions regarding career choice. In recent years, the theory has been modified in several ways including added attention being placed on multiple life-roles (not just occupations) and an explanation of a process known as a mini-cycle. Mini-cycles involve new growth, reexploration and reestablishment activities and can be triggered by destablizing events or transition points in one's life.

An important construct of career development theory is career maturity (Osipow, 1990; Super, 1974, 1990). Simply defined, career maturity describes one's ability to successfully cope with both affective and cognitive vocational development tasks (e.g., in adolescence tasks such as crystallizing, specifying, and implementing career choice are important) encountered across the developmental continuum from exploration stage through decline.

The applicability of developmental theory to individuals from special populations has frequently been questioned. Critics maintain that since developmental theory was originally based on a homogeneous group of middle-class adolescent males with continuous vocational development, theoretical views may not be applicable to groups whose life experiences are different (Gottfredson, 1986; Manuele, 1983). And, in fact, Super (1990) acknowledged that certain demographic variables, particularly socioeco-

nomic status, may influence self-concept. However, his own research (Nevill & Super, 1988; Super & Nevill, 1984) indicates that work role salience (i.e., commitment to work) has a greater impact on career development than socioeconomic status, gender, or race.

Social Learning Theory

When applied to career behavior, Krumboltz's (1979) social learning theory assumes that the behavioral repertoire an individual uses to make career decisions develops from a complex interaction of genetic predispositions, environmental conditions and events, past learning experiences, and current task approach skills. Social learning theory provides an alternative to theories that rely too heavily on either sociological (economic) factors or psychological events to explain career choice. Instead, this theory considers the impact of both sets of factors and their interaction (Mitchell & Krumboltz, 1990). Economic and social conditions positively and negatively reinforce an individual's past learning experiences, which, in turn, affect career aspirations and the process used to make career choices. Past learning experiences may be significantly influenced by the presence of a disability, socioeconomic disadvantage, race, gender, cultural norms, discrimination, one's physical characteristics, or the availability of adequate role models. Mitchell and Krumboltz concluded that "persons will be more likely to learn and use the task approach skills of career decision making if they are positively reinforced for learning and using the skills or if they observe a model being positively reinforced for using the skills" (p. 188).

A strength of social learning theory is the identification of specific factors that can influence the decision making process and the recognition that sociological and psychological factors interact to influence career behavior (Hackett et al., 1991). Theory suggests several important issues for career counselors to consider including the use of role models, positive reinforcement, structuring job tasks to provide success experiences (e.g., individualizing), and providing feedback (Mitchell & Krumboltz, 1990). Yet, while Krumboltz's theory contributes to our understanding of the career behavior of special populations, Brown (1990) cautioned that it is limited by a focus on the decision making process as opposed to a developmental emphasis. "As the theory now stands, it would be difficult to use it for determining normative behavior or designing career development programs" (p. 357).

Sociological Perspective

Proponents of a social systems (sociological) perspective are most interested in the influence that institutional and impersonal forces such as socioeconomic status, cultural expectations, race, gender, stereotyping, discrimination, and pure chance have on career decision making and the fulfillment of career decisions (Cummings & Maddux, 1987; McDaniels & Gysbers, 1992). Theorists argue that systemic (institutional) bias and structural barriers are often erected on the basis of race, gender, and social class which lead to limited career alternatives and availability. Hotchkiss and Borow (1990) suggested that this may explain why a disproportionate number of individuals from minority groups and women are concentrated in low-paying, low-prestige jobs.

Disagreement exists as to the utility of a sociological theory to explain the career behavior of individuals from special populations. Cummings and Maddux (1987) declared that this perspective is less relevant for persons with special needs than all other career development models. Similarly, others have discouraged serious consideration of this theory for members from special populations because it is too simplistic, does not take variable interaction into account, and ig-

nores psychological processes involved in career development (Brown, 1990). "The fault lies not in the basic premise of the theory so much as in the incompleteness of the variables included" (Gajar et al., 1992, p. 431).

Hotchkiss and Borow (1990) and Neff (1985) have countered that professionals often ignore the powerful influence that social systems, socioeconomic status, social stratification, and stereotypes have on an individual's educational and career options. In their opinion, to ignore these influences is to unwittingly accept and even perpetuate educational and occupational stereotypes based on gender, race, or social class. Thus, while sociological theory may be inadequate as a sole explanation of career behavior, it appears that social influences must be considered when examining the career behavior of adolescents with special populations.

Implications for Practice

From the foregoing discussion, several implications for career counseling and vocational transition program development emerge. These implications can be grouped into four clusters: the nature of career counseling and preparation, identifying career options and choice, considerations in vocational-transition program development, and constraints on career behavior imposed by psychological and sociological factors. Table 1 contains a summary of the major tenets of prominent career theories, potential contributions of theories to an understanding of career behavior in adolescents from special populations, and implications of each theory for practice.

Nature of Counseling and Preparation

The design and structure of career counseling and transition programs for adolescents from special populations can be guided by a developmental perspective. One implication of adopting a developmental theory is that career preparation programs must provide early and frequent opportunities for considering career alternatives. The provision of early and sustained vocational and social experiences appears to be an especially critical factor for long-term success. Conte (1983) concluded that persons from special populations "must have exposure to typical vocational challenges and tasks early if they are to develop adequate vocational maturity to become successfully employed as adults" (p. 320).

The regular and predictable patterns of career behavior outlined by Super's (1990) life stages provide a framework for design and implementation of preparatory experiences and support required for the transition from school to work. Counseling interventions should provide development or growth-producing activities and environments that address occupational self-concept clarification and implementation, and offer opportunities to handle appropriate developmental tasks rather than an exclusive emphasis on identifying, preparing for, and obtaining a specific job (Curnow, 1989).

Recognition of the cyclical nature of career behavior holds a second implication for practice. Appropriate interventions should be available to target specific problems and provide various means for adolescents to revisit or "recycle" developmental tasks previously completed if developmental delays or impairments are experienced. Super (1990) suggested that the need to recycle is most likely to occur during times of stress and transition (e.g., starting a new job or work experience).

Identifying Career Options and Choice

Two theories (Dawis & Lofquist, 1984; Holland, 1985) are particularly relevant in guiding career assessment and deci-

Table 1. Contributions of career theories to vocational transition programming for special populations

Theories of Career Behavior	Major Theoretical Concepts	Contribution to Understanding of Career Behavior in Special Populations	Implications for Practice
Theory of Vocational Personality and Work Environments (Holland, 1985)	■ Six vocational personality types (interests) and occupational environments ■ Job satisfaction and success result from a match between personal and work environment characteristics (congruence) ■ Cognitive-emotional basis for career guidance and counseling designed to classify person-environment fit ■ Phenomenological and descriptive in nature, not developmental	■ Pivotal role in career assesment-identifying appropriate career choice alternatives in broad occupational fields ■ Parental influence is important to typological development ■ Does not address experiences and decisions that must occur in years prior to career choice ■ Research needed to determine impact of personal and environmental characteristics	■ Vocational assesment to identify appropriate career alternatives (highlights the relationahip between knowledge about self and occupational information) ■ Predictions of job satisfaction and stability
Work Adjustment Theory (Davis & Loquist, 1984)	■ Describes development and consequences of work personality when implemented through career choice ■ Job stability and satisfaction ■ Work adjustment depends on degree of balance (correspondence) between individual work needs and ability of work environment to meet those needs	■ Focus on relationship between individual personality and work environment rather than on process of making choices ■ Examines reinforcement available in work environments leading to satisfaction ■ Implied contributions to narrowing career choice alternatives (optimize satisfaction)	■ Vocational assesment and counseling identifies needed work personality and reinforcement for individual satisfaction ■ Assistance with selection and placement in vocational training programs (*e.g.*, OJT, JTPA, cooperative education) ■ Enhance adjustment to work after graduation/transition ■ Program placement and follow-up or follow-along success indicators **(Continue)**

Theories of Career Behavior	Major Theoretical Concepts	Contribution to Understanding of Career Behavior in Special Populations	Implications for Practice
Roe's Personality Theory (1956; Roe & Lunneborg, 1990)	■ Work personality (interests and needs) develop from complex interaction of genetic limitations, cultural background, and socioeconomic status ■ Needs-hierarchy created by child-rearing practices impacts on personality/interests ■ Experiences channel career interests and attention in particular directions	■ Personality influences on career interests and choice ■ Focus on occupational choice not development ■ Weighted formula for influence of genetic, cultural and socioeconomic status	■ Parental training to positively impact on career interests ■ Consideration of the varying degree of influence of identified factors ■ Physical limitations and impact of race, gender, and socioeconomic status can be taken into account when developing programs or providing career counseling
Career Development Self-Concept Theory (Super, 1974, 1990)	■ Career choice is a developmental life-long process influenced by self-concept ■ Five life stages (maxicycles) outline growth, exploration, establishment, maintenance, and decline ■ Minicycles (recycling) occur during transition or destabilizing periods ■ Career maturity describes ability to cope with developmentally-appropriate affective and cognitive vocational tasks ■ Work role salience (commitment to work or career) determines career maturity	■ Provides a longitudinal perspective that describes process (evolution) of career choice ■ Stages of career development identify appropriate vocational taks at various age levels (life stages) ■ Issues of occupational self-concept important for special populations ■ Applicability to special populations has been challenged - Work role salience is more important in career development than gender, race, or socioeconomic status	■ Theoretical orientation for career education and transition programs ■ Longitudinal perspective (elementary through young adulthood) ■ Cyclical (not lockstep) counseling approach tasks and guidance ■ Emphasis on individualized needs and clarification/implementation of self-concept ■ Programs should emphasize a multi-experiential process based on components of affective and cognitive career maturity

(Continue)

Theories of Career Behavior	Major Theoretical Concepts	Contribution to Understanding of Career Behavior in Special Populations	Implications for Practice
Social Learning Theory (Krumboltz, 1979; Mitchell & Krumboltz, 1990)	■ Career decision-making develops from the complex interaction of psychological and sociological factors (genetic predispositions, environment, past learning) ■ Career choices are influenced by positive (or negative) reinforcement of self or role models ■ Important issue is skills acquisition and use in career choice not content of choice	■ All individuals inherit certain characteristics beyond control and can exert varying degrees of control on environment (through learning) ■ Acknowledeges the differential impact of gender, race, culture, or socioeconomic status (*e.g.* effects of discrimination or poverty) on career-decision making ■ Focus on career decision-making not on career development process	■ Emphasize learning about self and the world of work (process) - accurate observations and beliefs ■ Inclusion of role models, positive reinforcement, strcturing work experiences for success, and individualizing learning experiences
Sociological Perspective (Hotckiss & Borow, 1990)	■ Career decision-making and fulfillment of choice are constrained by institutional and impersonal forces beyond control ■ Bias and barriers erected on basis of race, gender, or social class lead to limited career alternatives for special populations ■ Selection for participation in school activites and programs guided by informal practice of allocation based on students' social structure (tracking)	■ Acknowledges powerful affects of discrimination, stereotyping, cultural expectations and socioeconomic status ■ Explains disproporionate numbers of women and minorities in low-paying, low-prestige jobs ■ Identifies school practices of educational tracking (and selection to other programs) on basis of social position or preconceived idea (stereotype) of –"appropriate" placement	■ Improve quality of school experiences ■ Provide early and frequent opportunities to experience vocational sucess ■ Strengthen work related attitudes, information, and skills ■ Develop ability to directly contact and use relevant community resources ■ Can not categorically assume that special populations "belong" in predetermined vocational programs (eliminate systemic stereotypes and discrimination)

sion-making activities for adolescents with special populations. Holland's theory of work personality and work environments holds several implications concerning the focus of career assessment activities and the role of professionals in this process. In both cases, assessment and training activities should support self-appraisal and the acquisition of knowledge about work environments. Interestingly, these two areas have been shown to be a problem for some adolescents from special populations. The results of accurate assessments can assist counselors and transition specialists in identifying potentially congruent work environments.

Work adjustment theory (Dawis & Lofquist, 1984) emphasizes interactive relationships between individual reinforcement needs and reward structures available in potential work environments to meet those needs. Information obtained from the assessment of individual needs and work reward structures can guide practitioners in selecting congruent career options, training programs (e.g., cooperative education, on-the-job training, JTPA programs, supported employment), and employment sites for adolescents from special populations. Principles of work adjustment theory can also identify and explain conflicts that might arise after initial job placement has occurred.

Consideration in Program Development and Role of Practitioners

Most career interventions seek to achieve the following goals: the facilitation of career development, building decision-making skills, and guidance in making career-related choices. Brooks (1990) argued that rather than adopt a single perspective for developing career counseling and transition programs, a combination of theories could be used depending on individualized needs. Others have supported this multidisciplinary, comprehensive approach. For example, Osipow (1990) suggested that "each theory has unique elements to offer research and practice while at the same time building on what appears to be a relatively common base of concepts" (p. 129). Points to consider in developing multidisciplinary career intervention programs are briefly reviewed next.

Trait-factor theories (Dawis & Lofquist, 1984; Holland, 1985) emphasize helping individuals gather sufficient information to make a career choice. Here, practitioners adopt an active, but prescribed, role "by determining data-collection methods or assessment devices to be used and by reviewing and interpreting data" (Brooks, 1990, p. 460). These theories have the most to offer individuals experiencing career-choice problems. Work adjustment theory has an added emphasis on the workplace itself and can address adult work performance and satisfaction (Osipow, 1990).

In contrast, developmental theory directs practitioners to foster the career development process, particularly by increasing one's affective and cognitive career maturity and work role salience through exploratory experiences (Brooks, 1990). These specific elements might be considered in program development and counseling intervention. Super (1990) summarizes:

> [Interventions] would recognize individual differences in career development and avoid lockstep curricula. In the elementary years it would seek to foster curiosity and thus exploratory behavior, autonomy, time perspective, and self-esteem. . . .Exploration in breadth would normally begin in the middle school, would phase into exploration in depth when the individual appeared ready to focus on one or two groups of occupations (not at some predetermined year) and would phase back into exploration in breadth if

depth exploration proved unfruitful. (p. 243)

While vocational transition programs should not exclude job selection and preparation, developmental issues such as formation of a positive self-concept, enhancing one's attitude toward work, and acquiring competence in locating and securing employment must be integral program components.

Social learning theory (Krumboltz, 1979) seeks to improve self-observation, decision-making, and entry behavior skills which are achieved through the use of role models, positive reinforcement, and structured work experiences. From this perspective, maximum career development "requires each individual to have the opportunity to be exposed to the widest possible array of learning experiences, regardless of race, gender, or ethnic origin" (Mitchell & Krumboltz, 1990, p. 168).

Practitioners who adopt a sociological perspective strive to remove barriers that limit career choice and provide direct advocacy for individuals, e.g., education on the use of available community resources to prepare for or obtain employment. Other program considerations from a sociological perspective would include optimizing the chances for at-risk youths to complete school and strengthen work-related attitudes, information, and skills (Hotchkiss & Borow, 1990).

Constraints Imposed by Psychological and Sociological Factors

In recent years, several theories have attempted to describe the interactive effects of both psychological and sociological factors on career behavior. These theories first acknowledge that genetic endowment (physical and mental characteristics beyond individual control) set limits on career development potential (Neff, 1985). Factors such as gender, race, disability, and socioeconomic status have a differential impact on career decision-making. Social learning theory considers that economic and social conditions interact with these factors to reinforce or deter particular decisions (Mitchell & Krumboltz, 1990). The sociological perspective furthers this view by considering the powerful effects of discrimination and stereotyping on career behavior (Hotchkiss & Borow, 1990).

The career behavior and self-concept of adolescents from special populations appear to be especially sensitive to the effects of discrimination, social attitudes, cultural expectations, and stereotypes (Strohmer, Czerlinsky, Menz, & Engelkes, 1984). Curnow (1989) noted that negative cultural perceptions and social expectations tend to impose lower status and a devalued role on individuals with special needs which, in turn, results in limited job or career choices, restricted opportunities and access to training programs, and narrow, stereotypical employment possibilities.

In this regard vocational special educators, rehabilitation counselors, and transition practitioners must seriously consider their expectations, biases, and preconceived ideas about the employment potential of individuals with special needs and examine how these perceptions might affect intervention programs. At issue is whether adolescents are allowed to actively develop career interests based on compromise between self-concept, individual needs, and occupational information or if a system imposes certain values and expectations on them. Evidence of bias or stereotyping may be found in vocational-transition programs where students can only choose from several limited employment options and stereotypical jobs (e.g., custodial, food service, or housekeeping occupations) that have been deemed most appropriate

for particular special populations.[3]

The impact of parental and teacher expectations on career development and career choice appears to be significantly greater for adolescents from special populations (Conte, 1983; Curnow, 1989; Osipow, 1976). "Parental aspirations are most influential during the first 13 years of life. After that age, the aspirations of teachers seem to interplay with the child's own aspirations" (Goldberg, 1992, p. 169). As such, parents and teachers must acknowledge the potentially critical roles they play in the career behavior and choice of adolescents with special needs. Cox (1981) suggested that practitioners adopt the role of facilitator, thereby allowing individuals to make decisions and complete assignments as independently as possible. At the same time, practitioners must provide a guided, systematic process that minimizes chances for floundering or stagnation.

Despite the impact parents have on the career decision-making process of children from special populations, Smith (1975) noted that few parents are actively involved in the career development process. It appears, then, that parental training and support provided early in the child's school experience would be beneficial (Roe & Lunneborg, 1990). Efforts of this nature could provide parents with specific career-related information, interventions, and social support.

Conclusion

Professionals who provide career and vocational education to adolescents from special populations must critically evaluate their response to the question, "Why do we do what we do with regard to planning career and vocational programs for secondary-aged individuals from special populations?" The author of this article has suggested that prominent theories of career behavior may hold some of the answers. And, indeed, several implications for practice drawn from career theories were highlighted. Continued dialogue is critical especially given the void that exists in the literature regarding the use of theoretical perspectives to explain and predict the career behavior of adolescents from special populations.

A comprehensive understanding of the career behavior of adolescent with special needs will allow for a systematic, sequential, and purposeful approach to the design and implementation of career counseling interventions and vocational transition programs. However, additional work is needed before a theoretical framework for adolescents who are learning disabled or economically disadvantaged can be established. Even so, it is hoped that practitioners and researchers alike will consider the issues presented in this discussion. For it is through scholarly investigation and debate that future directions for program development and intervention will be identified and implemented.

3 A distinction is made between individuals who experience a learning disability or are economically disadvantaged and persons with moderate or severe mental retardation. It is assumed that the career development needs and behavior of these populations are different. However, treatment of that topic is beyond the scope of this article.

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Familiarity with the Service System and Perception of Needs at Transition

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Beginning with the late 1960's and the concept of "normalization," through the early 1990's, the way people with developmental disabilities were assisted and supported in the community underwent significant paradigm shifts. These changes evolved with such rapidity, that often-times the knowledge of teachers, consumers and families about new approaches in programming lagged behind their implementation in the community. In 1990, the Congress of the United States amended PL 94-142 with the passage of PL 101-476, the Individuals with Disabilities Education Act (IDEA), which mandates planning for transition from school to adult life and requires that parents and their children participate as equal partners with teachers in the planning process. Effective participation in this process requires an accurate understanding of the adult service system and information about community options available once special education ends.

Numerous national and state studies have provided substantial documentation of the difficulties individuals with disabilities experience on leaving school (Bruininks, Thurlow, Lewis & Larson, 1988; Johnson & Thompson, 1988; Halpern, 1985; Hazazi, Gordon, & Roe, 1985; Roessler, Brolin & Johnson, 1990). For most individuals with disabilities, living in the community following transition from school means long-term financial instability, family dependence, and isolation from other community members (Gaylord-Ross, 1988; Hasazi & Clarke, 1988; International Center for the Disabled, 1989).

The literature has shown consistently that, for youths with significant disabilities, meaningful parent involvement during the time of transition is essential (e.g. Hill, Wehman, Hill & Goodall, 1985; Ellison, 1991; Everson & Moon, 1987; National Council on Disability, 1989; Nisbet, Covert & Schuh, 1992; Gerry and McWhorter, 1990). And, unfortunately, such involvement has often been found to be lacking (Stile, Cole & Gardner, 1984; Schutz, 1986), especially among families with fewer means and less education (Schutz, 1986). The importance of family involvement as well as that of students themselves is recognized in IDEA, yet only recently have the views of parents on transition, their preferences and choices, their familiarity with the adult service system, and their knowledge about available options been examined in any depth (cf. Dever, 1987; Ferguson, Ferguson, and Jones, 1988; Halvorsen, Doering, Usilson, Ferron-Davis and Sailor, 1989).

Special education teachers likewise play a pivotal role in the transition proc-

ess (Roessler, Brolin & Johnson, 1990; Rusch & Phelps, 1987; Wilcox, McDonnell, Bellamy & Rose, 1988; Zigmond & Miller, 1992). However, research on teacher knowledge or attitudes about transition issues, or teacher familiarity with the adult service system, a key element of transition planning, has also been limited (Everson & Moon, 1987; Schmelkin & Berkell, 1989).

The Special School District of St. Louis County[1] (SSD) and the Productive Living Board for St. Louis County Citizens with Developmental Disabilities,[2] two key organizations in the developmental disabilities service system in St. Louis County, Missouri, were committed to assist teachers, consumers, and families in becoming more effective participants in the transition planning process and in becoming informed of the adult service/support system. The determination of the present knowledge base for teachers, students, and families was needed in order to develop an effective program of information dissemination and transition programs. The objectives of the study reported on here were, therefore, practical. The study sought 1) to determine the views of teachers, parents and students on the service needs of students as they leave school, and 2) to determine the level of knowledge these groups have of the local adult service system. This information was viewed as necessary for the development of an effective transition program and for the dissemination of needed information about transition issues.

Method

The study population consisted of 440 special education students with developmental disabilities aged 16 to 21. This population included all students of the Special School District of St. Louis County between these ages at the time of the study who were attending school in segregated facilities or had special education teachers in separate home rooms. These groups were selected because it was expected that a substantial majority of them would subsequently qualify for services from the adult system serving persons with developmental disabilities. The study population did not include students with learning or behavioral disabilities unless developmental disabilities were also present.

Of the 440 students in the study population, 253 (58%) were boys, 186 (42%) girls; 262 (63%) were white/European Americans, 181 (36%) African American; 266 (60%) were from two-parent families and 174 (40%) from single-parent families. The large majority of the students were mentally retarded (365, 83%); and for 323 (74%) of them this was their primary disability. The prevalence of other developmental disabilities included 21 (8%) with cerebral palsy, 12 (5%) with epilepsy, 12 (5%) with orthopedic impairments, 9 (3%) with autism, and 8 (3%) with spina bifida. Forty-three (17%) of the students were classified as having a learning disability in addition to having a developmental disability.

The families and teachers of all students in the study population were surveyed by mail. The surveys had two major parts. The first part sought information on the transition-related services stu-

1 The Special School District of St. Louis County provides special education services to over 21,000 students, aged 3 to 21, in all 23 public school districts in the county.

2 The Productive Living Board is responsible for administrating a special county-wide property tax which is used to develop an array of services primarily for adults with developmental disabilities and their families. Over 3,700 county residents receive services provided through 70 different community agencies funded by the PLB.

dents would need when they completed their school program. Items pertaining to living and work arrangements, transportation and recreation services were included. Parents and teachers were asked, for example, to select the type of work or training activity that best fit students' abilities and interests. In their survey, parents were also asked about additional service needs they or their children may have currently that were not being met. A 33- item, scaled-response inventory was developed for this which sought to identify specific need areas as well as the relative importance of individual needs. The items covered a wide range of possible service needs across several dimensions, including immediate practical needs (such as medical care and respite care), social psychological needs (such as counseling for family members and coping with stress), and planning and informational needs (such as learning about post-school options students have and planning for a student's future financial security). Parents were asked to indicate their relative need for each item on a five-point scale where "1" was defined as "not a need," and "5" was defined as "very high need."

In the second part of the surveys parents and teachers were asked about their knowledge of and experiences with the various elements of the adult service system. They were specifically asked about their familiarity with 1) the local office of the state Department of Mental Health (DMH) which is responsible for providing case management services and is a source of funding for some adult services, 2) other state agencies, such as Vocational Rehabilitation, through which funds for a range of services are distributed, and 3) 15 local community provider agencies – such as the local Association of Retarded Citizens (ARC) and United Cerebral Palsy Association–which deliver most adult services in the area. Parents and teachers were asked to select one of three response categories to indicate their familiarity with services provided by these agencies (not familiar, somewhat familiar, very familiar). Parents were asked if they knew how to apply for the services, whether their children had received services from the agencies, and if they had, whether they were satisfied with the services provided. Teachers were asked if they thought their students in the study population were eligible for services from the agencies and whether they had ever referred the students to the agencies.

Both parent and teacher groups were asked if they were familiar with the terms supported living, supported employment and respite care. Both groups were also asked how — through what media — they would prefer to receive additional information about available services and the local service system. Teachers were asked what transition-related issues they had discussed in meetings with this group of parents during the last 12 months. They were presented with a list of specific issues that arguably should be addressed during transition meetings with parents and students (see Halvorsen et al., p. 258) and were asked if they had done so within the last year. The surveys were piloted on a small group of respondents prior to the first full mailing.

Following two mailings of the surveys, usable responses were received from 176 (40%) families and 261 teachers (who were the teachers of 60% of the students in the study population). Parents who had not responded to the first mailing were given the option of responding to the survey by telephone. Twenty-three of the surveys were completed in this manner.

There were 110 students on whom completed surveys were received from both parents and teachers. These students were considered as possible interviewees. Having first obtained parental permission, in-home interviews were conducted with 32 of the students.

Results

Service Needs

Living Arrangements: Parents and teachers were asked to indicate the type of living arrangement that would best meet the needs of their children when they are ready to leave home. Of the responding parents, 73 (41%) selected independent living with periodic assistance, 39 (22%) chose group homes, 12 (16%) supervised apartments, and 23 (13%) specialized facilities . The views of teachers on the residential needs of their students were diverse. Nearly half (122, 47%) recommended independent living with assistance, 60 (23%) indicated group homes, 41 (16%) supervised apartments, and 14 (6%) specialized facilities. When asked their own views, 20 (63%) students who were interviewed said they preferred independent living with assistance, 5 (16%) said they wanted to remain at home, 4 (12%) said they could live alone without assistance and 3 (9%) said they preferred a group home. (See Table 1.)

Table 1. Living arrangements needed according to parents, teachers and students when student is ready to leave home

	Parents	Teachers	Students*
Independent living with assistances	73(.415)	122(.469)	20(.625)
Surpervised apartment	12(.164)	41(.157)	
Group home	39(.220)	60(.228)	3(.094)
Specialized facility	23(.132)	14(.055)	

* 5(.156) said they wanted to remain at home and 4(.125) said they could live without help.

Employment and Training Options: More parents saw supported employment as most suited to the abilities and interests of their children than other work or training arrangements, although less than half indicated this option (79, 45%). Other parents preferred that their children worked along side other persons with disabilities in real work settings, such as a mobile crew or enclave (30, 17%); or a sheltered workshop (29, 17%); or sought adult developmental training programs (25, 14%). There was a strong correlation between the level of functional impairment and the type of work or training arrangement selected by parents. Parents of children with more severe disabilities were less likely to view supported employment as appropriate and more likely to prefer sheltered workshops or developmental training programs (Pearson's r =.62, p<.001). Holding the severity of disability constant, preference for supported employment arrangements was found to be significantly higher among the parents of boys, parents with more education and parents of younger children (ANOVA, f=5.40, 4.8, 4.0, p<.01). About half (125, 48%) of the teachers surveyed considered supported employment as most suitable for their students as they initially transitional out of school; a larger number (152, 58%), saw it as appropriate within five years. Other teachers regarded enclaves (43, 16%) or sheltered employment (28. 11%) as most suited for their students even after five years. Teachers of students with more severe disabilities were more likely to select sheltered work or enclaves over individual supported employment. All but two of the students interviewed said they wanted to work once they are out of school. A sizable proportion of the students interviewed (22, 69%) believed they would be ready to work when they com-

pleted their school program and reported that they would prefer to work alongside nondisabled coworkers in regular work settings. Six students (19%) said they preferred enclave arrangements. Two (6%) reported a preference for working in sheltered workshops. Twelve (38%) indicated that they had had some prior paid work experience. (See Table 2.)

Transportation Services: Only 13 (7%) parents reported that their children would require no transportation assistance, although 53 (30%) indicated that their children could use public transportation. Nearly half (83, 47%) said that their children would need special, door-to-door services. Eighteen (56%) of the students interviewed said they had used public transportation. Eleven (34%) said they had received some training in using public transportation.

Recreation Services: A large number of the parents surveyed (146, 83%) said their children would want to participate in some organized recreation and leisure-time activities offered in the community. The more familiar parents were with the adult service system, the more likely were they to be interested in such activities for their children (ANOVA. $f=6.42$, $p<.01$).

Additional Needs: In responding to the 33-item inventory included in the survey all parents reported a number of additional service needs that were not being sufficiently addressed. Although responses showed the uniqueness of each family, distinct patterns were evident. A factor analysis (SPSS/PC FACTOR, PC analysis) of parent responses revealed five general need areas:

1) needs related to service planning and information about services, especially services that will be needed when children are out of school;

2) needs related to stress experienced in caring for children;

3) respite care needs;

4) health-related needs; and

5) other specific services needed currently.

The most frequently expressed needs involved items in the first of these areas and related directly to the process of transitioning from school and planning for the future. There were six specific items within this cluster that over half the parents described as a "very high need" and over 80 percent indicated some need for. These six items are listed in Table 3. The table shows the proportion of respondents who reported the items to be either not a need ("1" on the scale) or some need ("2" through "5" on the scale). The overall response pattern to the inventory showed that while some families have needs, sometimes very great needs, for medical assistance or respite care or other services, nearly all parents share a perceived need for help with the crucial process of transition and future service

Table 2. Employment and training arrangements needed according to parents, teachers and students.

	Parents	Teachers	Students
Supported employment	79(.451)	125(.479)	22(.688)
Enclave	30(.165)	50(.191)	6(.188)
Sheltered Workshop	29(.171)	37(.142)	2(.063)
Developmental training	25(.140)	41(.157)	
Other	12(.068)	9(.034)	2(.063)

and support planning.

The higher the education level of parents the more likely were they to report a high need for information about future services (Pearson's r =.43, p<.01). At the same time, parents who were less knowledgeable about services available through the adult service system (see below) were also more likely to report a high need for this kind of information and planning assistance (Pearson's r=.39, p<.01).

Table 3. Transition-related infirmation needs

	Not A Need	Some Need
learning more about the options student has in selecting a job or training program once out of school	21(.121)	155(.879)
learning how to be an effective advocate for services for student once out of school	19(.110)	157(.890)
planning for student's future financial security	28(.157)	148(.843)
planning for student's future service needs	25(.143)	151(.857)
learning to help student gain control of own future	23(.133)	153(.867)
learning more about options student has in living arrangements	30(.171)	146(.867)

Familiarity with the Adult Service System

Of the 176 parent respondents, 119 (67%) reported some familiarity with the services of DMH, including 38 (22%) who said they were "very familiar" with these services. Parents who were "very familiar" with DMH services were more likely to be those whose children are more severely disabled, have physical impairments, require specialized medical attention and/or door-to-door transportation services (chi-square, p<.01). Parents of non-minority students, older parents, and those in two-parent households were more likely to be aware of DMH services than their counterparts (chi-square, p<.01). These types of families were also more likely to have had some contact with the local DMH office (chi-square, p<.01). Thirty-three percent of the responding parents said they were not familiar with this key agency.

Among parents, familiarity with other state agencies was low. For example, 40 (23%) reported some familiarity with the agency providing legal and advocacy services, and 44 (25%) said they were familiar with the agency funding vocational rehabilitation services. Fifty-nine (33%) of the parents reported that they did not know how to apply to the Social Security Administration for financial assistance on behalf of their children.

The level of awareness among parents of the 15 local community agencies was found to be quite limited. Responding parents were more often familiar with the ARC (100, 56%) than any other community agency. Familiarity among parents for other agencies listed ranged from 6% to 28%. Parents of children with more severe disabilities and parents with higher levels of education tended to be more familiar with community service agencies (Pearson's r =.41 & .38, p<.01). Teachers' awareness of community agencies varied considerably depending upon the organization. Few displayed a comprehensive understanding of the local

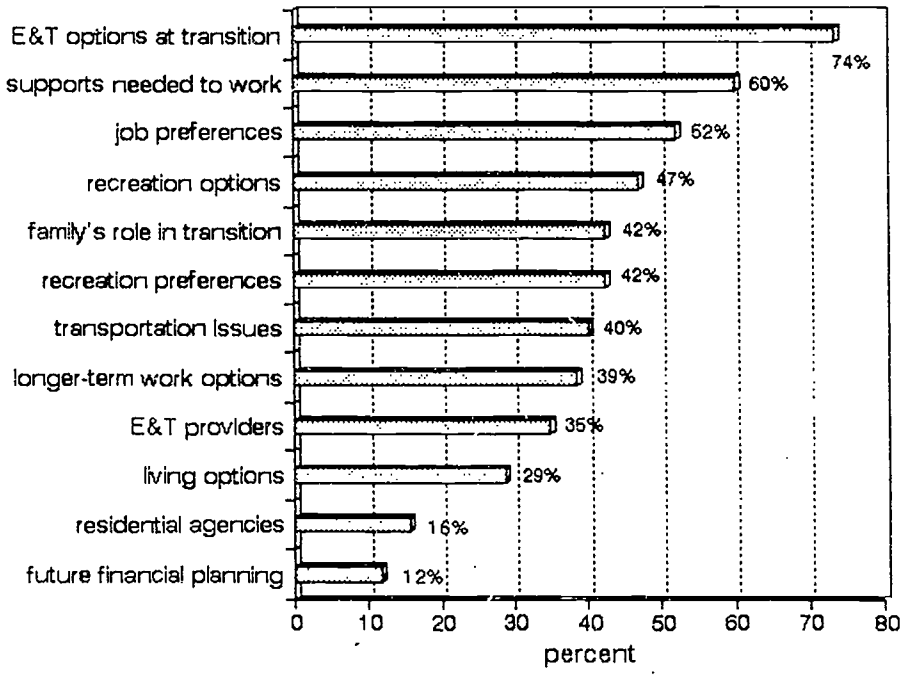
adult service system. For example, 243 (93%) were aware of the local ARC, but less than half were familiar with most community agencies or parent assistance associations.

Familiarity with Terms. Over half of the parents who responded to the survey said they were not familiar with the terms "supported employment" (103, 58%) or "supported living" (97, 55%). Nearly a third (56, 32%) said they were not familiar with the term "respite care." A large majority of teachers (240, 92%) said they were at least "somewhat familiar" with these terms. About half (139, 53%) said they were "very familiar" with supported employment and supported living, and 167 (64%) said they were "very familiar" with respite care.

Transition Planning

Table 4 shows the percentage of teachers who said they had discussed specific transition issues listed in the instrument. Although the likelihood of issues being discussed was found to increase with the age of students, many of the issues had not been addressed in such meetings.

Figure 1. Transition issues discussed



Items that were more likely to be discussed included the employment and training options students have following school (74%) and supports needed in order to work (60%). Items less likely to be discussed included the role of family and friends in the transition process (43%), the residential options the student has as an adult (29%), and sources of financial assistance available to the student (16%).

Teachers who were more familiar with the service system tended to discuss a wider set of transition issues with parents. There was a significant positive correlation between these two factors (Pearson's $r=.41$, $p<.01$). Teachers who discussed a wider set of transition issues were also more likely to be familiar with the terms "supported living" and "supported employment" (ANOVA, $f=5.7$, $p<.01$). There was also a significant posi-

tive correlation between teacher familiarity with the service system and the likelihood that a student had a transition plan (ANOVA, f =6.5, p<.01). Although the number of current students reported to have transition plans was small (47, 18%), they were more likely to have one if their teacher was more knowledgeable of the adult service system.

Less than nalf of the teachers reported that they had ever discussed the services that were available from specific state agencies with the families of the students in the study population. Teachers reported discussing services available from the Vocational Rehabilitation agency with 81 (46.0%) of the families. DMH services were discussed with 71 (40.3%) of the families, the Social Security Administration with 41 (23.3%) and Protection and Advocacy Services with 6 (3.4%).

Preferred Ways of Receiving Information

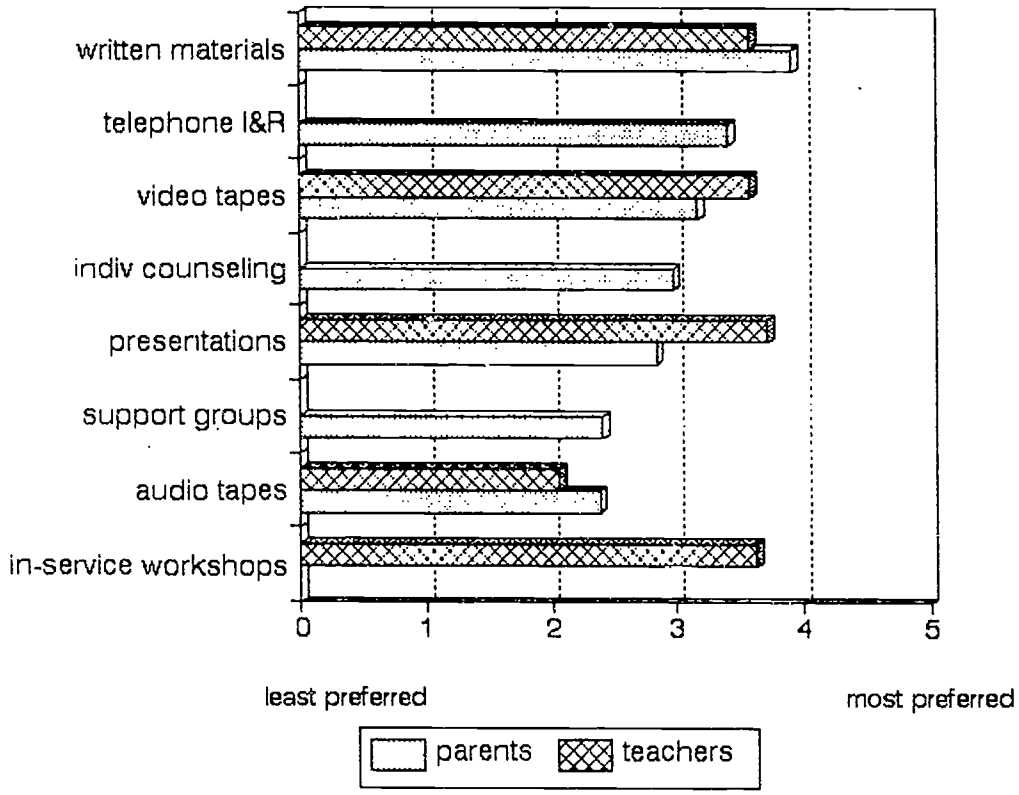
Parents and teachers were asked how they would like to receive additional information on the services available to these children in the region. In general, parents preferred media that were more private. Written materials, telephone information and referral services and video tapes were preferred most often. Teachers, on the other hand, were open about equally to in-service training, presentations or written materials. See Figure 2.

Discussion

With the passage of IDEA, parents are expected to become full partners in the transition planning process. Previous research has found that one reason for the ineffectiveness of transition programs is "the absence of parent and family involvement in the determination of transition goals, service strategies, and service providers" (Gerry and McWhorter, 1990, p. 507). With increasing emphasis being placed on making the process consumer driven many will agree with Nisbet, Covert and Schuh (1992) when they write that "the assumption should be that parents are the leading members, the decision makers, in planning for their son/daughter" (p.407). The full participation of the family in transition planning, not to say asserting a leadership role in the process, requires an accurate understanding of the service system and current approaches to service programming.

Based on the findings of the survey it was clear that the knowledge not only of many parents but of many special educators as well about the service system was very incomplete. Both parents and teachers were found to have basic information needs that required immediate attention. The results of the study indicated that while some parents had a better working knowledge of the adult service system than others, and individual parents had different information needs, most parents of students in special education required and should be provided comprehensive information on a wide range of transition-related issues. This includes information on the adult service system (e.g., types of services available, eligibility criteria, purpose of specific services, how services are accessed, how to learn more about the service system and where to find answers to their questions about it). Many parents also need information on the options their children have as they complete their school programs, including short and long-term options regarding job/training programs and living arrangements when children are ready to leave their natural homes, as well as the availability of recreational and leisure time opportunities. Despite their common usage among professionals, the terms supported living and supported employment are not accurately understood by many parents of children nearing transition from school. Importantly, it is not clear how many parents, especially parents of children with more severe disabilities, view these approaches

Figure 2. Preferred ways of receiving information



as suitable for their children. Further, most parents of students nearing the time of transition have limited information on a wide set of factors likely to determine whether the transition process will be successful or not, including: how to be an effective advocate for adult services for their children; how to learn about and access financial assistance available from governmental sources; how to plan for their children's futures, including their future financial security and future service needs; and how to help their children become more independent and have more control over their own future. Moreover, a majority of parents surveyed were not sufficiently knowledgeable of the transition planning process itself or their role in it.

Historically, families have not looked forward to the transition of their children with disabilities from school to adult life. Because of the Education of All Handicapped Children Act students with disabilities have received comprehensive services while in school. Parents have often come to rely heavily upon their children's teachers. When it comes to transition planning, many special educators have found that parents have continued to rely upon them and to defer to their judgment. If parents are to take their proper role in transition planning, teachers will often have to act as facilitators and catalysts of the process. It is all the more critical, therefore, that teachers themselves become fully informed about the post-school options their students have and about the local adult service system on which these young persons will have to rely.

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Avoiding Inappropriate Referrals of Minority Language Learners to Special Education: Implementing a Prereferral Process

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Abstract: Hispanic students, and especially Mexican American students, are vastly over-represented in special education classes in Texas' public schools. It has traditionally been assumed that the reason these students do not achieve their academic potential is because of some inherent cognitive deficiency within students themselves. The author of this paper challenges the medical model upon which many such special education referrals are based. The author proposes that educators and school psychologists seriously investigate the ways that the teacher, the curriculum and the schools fail language minority learners before bilingual students are shuffled off to special education classes. One model of a prerefferal process will be offered that may be used by educators to better evaluate and ameliorate the academic difficulties of bilingual students. Although this prerefferal process can and should be used with minority language students of any ethnicity, nationality, or race, emphasis in this paper will be placed on the experience of bilingual (English-Spanish speaking) Hispanic students, and Mexican American students in particular.

Introduction

It has been shown that there is a three hundred percent over-representation of Texas Hispanics in the category "learning-disabled" (Ortiz and Yates, 1983). What is more, this over-representation of language minority children, and especially Hispanic students, in special education classes, seems to be a widespread phenomenon even outside Texas in those school districts that have significant populations of Hispanic students (Ruiz, Figueroa, Rueda and Beaumont, 1992). Obviously, this situation is causing a number of educational researchers to ask serious questions about how language minority children are evaluated and referred to special education classes.

At the present time if a student is having difficulties in the mainstream classroom the tendency of teachers and administrators is to assume that it is the problem of the student (Dunn, 1987). The student is referred to school psychologists, counselors, reading specialists, etc. for testing to see what the student's problem is. During the first part of this paper the inadequacy of the medical model as it has been used with Hispanic students (as well as many other students) will be demonstrated by reviewing the recent relevant research in this area. In the second part of this paper an alternative to the medical model will be presented which can be implemented at minimal cost and effort and with more probable success for both the school and

the Hispanic students. The primary goal of this paper will be to clarify a referral/placement process that will identify Hispanics with disabilities in a fair, appropriate manner which actively involves parents.

The situation of bilingual Hispanic students has been emphasized in this paper because this is a clear example of a significant failure of the special education system in the U.S. that needs to be rectified so that special education can serve better all students in need of its services.

PART I

What is the Medical Model?

Among psychiatrists these days there is a heated debate about the origins of many psychiatric illnesses such as depression, mania, and schizophrenia. Although this debate is very complex, it will be presented in a much simpler form for the sake of a more clear definition of the medical model. One group of psychiatrists believes that many, if not most, psychiatric problems a person has, is caused by a chemical imbalance in the person's brain. To rectify the situation one needs to take a drug in order to become less depressed, manic, or schizophrenic. Other psychiatrists believe that an individual is genetically prone to suffer from one of a number of psychiatric illnesses. What is needed, in their opinion, is to identify and repair the defective gene or chromosome through some type of genetic engineering and the patient will be cured. In both of these instances the psychiatrists subscribe to the belief that a person suffers from psychiatric illnesses because of some internal problem or deficiency unique to that individual. In effect, they have based their diagnoses and treatment on the medical model. The patient is ill because of a problem within the patient.[1]

Other psychiatrists and psychotherapists believe that a person may be depressed, manic, or schizophrenic because of something that has occurred or is occurring in a person's environment. This group of people believes that one cannot immediately blame the illness of a person on some organic deficiency without also looking at the external factors which may be contributing to an individual's disease or illness (i.e. the existence of some type of trauma or abusive/dysfunctional family relationship). These health practitioners would be critical of those using the medical model because they too easily dismiss or undervalue the importance of an individual's environment in the diagnosis and treatment of the individual's disease.

When school counselors refer language minority students to be "tested" in order to evaluate whether they should be referred to special education classes, without taking into consideration the student's environment (i.e. second language learning, the curriculum, experience of the teacher in teaching language minority students), they are employing a medical model rather than a socio-educational model.

The Problem of Biased Research and the Case Against IQ Tests

One cannot deny the fact that Hispanic children have traditionally scored below average on standardized intelligence as well as academic achievement tests. It is also apparent that Hispanic students drop out of school in disturbingly high numbers. It is not uncommon for the drop out rate for Hispanics to be above

1 For a more complete explanation of the medical model and its origins please refer to Andreasen (1984), especially pages 27-33.

40% in some school districts (Fields, 1988). In the past, researchers and educators have blamed these failures on Hispanic students and their parents. One of the strongest criticisms of the intellectual capacity and aspirations of Hispanics was offered as recently as 1987 by a prominent psychometrician, L.M. Dunn, the creator of the Peabody Picture Vocabulary Test Series. In explaining why Hispanic students as a group consistently score lower on IQ tests than Whites, Dunn makes some assertions and assumptions that are really quite shocking given the fact that he is an active and respected scholar who once "observed that minority groups were overidentified as handicapped. (In 1968) Dunn believed this over representation was caused by discriminatory intelligence and achievement tests" (Fuchs and Fuchs, 1989, p. 303). By 1987, however, Dunn reversed his thinking and wrote that Puerto Ricans and Mexican Americans are inherently less intelligent than people from other ethnic groups (Dunn, 1987).

In addition to these unsubstantiated assertions Dunn also states quite categorically that child rearing practices of Hispanic mothers and low educational aspirations of Hispanic Americans (Fernandez, 1988) are all important reasons why Hispanics score lower on IQ and achievement tests than other ethnic groups. Dunn believes that "It is time for the Hispanic people to stop blaming teachers for their own lack of school success and other troubles, and set about working harder to obtain a quality education for their children" (Fernandez, 1988, p. 190).

The chairman of the Hispanic Research Issues of the prestigious American Educational Research Association, Ricardo R. Fernandez, set the framework of those who vehemently oppose the conclusions drawn by Professor Dunn.

> A different perspective might have focused not on who is to blame but rather on the structural factors that account for this sad state of affairs. ... In Dunn's world view (at least based on what he chooses to highlight in his monograph) the cause of the low levels of academic skills and consistently poor achievement of Hispanic (and other minority students) on standardized tests cannot be attributed in any way to school-related factors. ... Dunn would have us believe that failure to succeed, therefore should be attributed primarily to individual students and their families and, by extension, to the collective group – the Hispanic community (Fernandez, 1988, pp. 195-196).

Intelligence tests, however, are especially fallible when it comes to measuring students' capacity to learn. Robert Ebel (now deceased) and David Frisbie, a researcher at the University of Iowa and senior staff developer of the Iowa Test of Basic Skills, a nationally used standardized achievement test, warn teachers that using IQ tests to evaluate any student is extremely problematic (Ebel & Frisbie, 1986).[2]

In the light of Ebel's and Frisbie's well reasoned critiques of intelligence tests one can easily see the fallibility of Dunn's argument since Dunn relied heavily on the results of IQ tests to "prove" that "Hispanic-Anglo differences in intellectual

2 Ebel and Frisbie base their conclusions on several factors; 1) There is extensive debate regarding what intelligence is and how one measures it. 2) It is impossible to build culture-free intelligence tests. 3) IQ tests given to children at a young age do not predict subsequent cognitive or intellectual development. 4) In practice, teachers and administrators have used IQ tests to deny opportunities to students rather than to develop better curricula or to promote learning. Please see Ebel and Frisbie, 1986, pp. 302-312 for further elaboration of these issues.

performance are largely due to genetic differences in intelligence" (Valencia and Aburto, 1991, p. 209).

A Critique of the Medical Model

Professor Jim Cummins, an internationally respected scholar in bilingual education, is a strident critic of what he sees as the abuse of psychological testing on minority students and of the medical model in general. When psychological tests alone are used to evaluate students' cognitive capacities they are being diagnosed out of context. As a result, psychologists are ignoring variables (i.e. curriculum, pedagogy, possible racism, second language learning difficulties) that may have a real influence on why the child is not learning as he/she should be learning (Cummins, 1986). As an illustration of this point a team of researchers performing a longitudinal ethnographic study in one school district in California discovered that "Psychologists would test until the desired profile of scores (of a student) met an eligibility requirement" (Ruiz, Figueroa, Rueda and Beaumont, 1992, p. 361).

Cummins is convinced that the deck is stacked against the minority language student from the moment that she/he is "sent for testing" to determine why she/he is experiencing learning difficulties at school.

> Location of the "problem" within the child is virtually inevitable when the conceptual base for the psychological assessment process is purely psychoeducational. If the psychologist's task is to discover the causes of a minority student's academic difficulties and the only tools at his/her disposal are psychological tests (in either L1 or L2), then it is hardly surprising that the child's difficulties will be attributed to psychological dysfunctions (Cummins, 1986, p. 7).

School psychologists are not sociologists and they are not necessarily trained in multicultural education or bilingual education. Their training and duties are much more narrowly defined than that. Cummins asserts that "discriminatory assessment is carried out by individual people who have accepted a role definition and a socio-educational system that makes discriminatory assessment virtually inevitable" (1986, p. 10). He says that psychologists must begin to see themselves and what they do in a completely different light. "To the extent that individual psychologists question the assumptions underlying their role, they also challenge the social and educational structures that disable students" (Cummins, 1986, p. 10).

Cummins is not alone in his concern about the appropriateness of the meanings of psychological assessments and diagnoses. It has been argued "for years that the assessment procedures and tests used in special education are devoid of technical adequacy" (Ruiz, Figueroa, Rueda and Beaumont, 1992, p. 362). Rather than blaming the victim (i.e. the student), it is time to recognize that many of the learning problems of language minority students are the result of poor pedagogical practice and the social pathology which is reflected in the patterns of dominant-subordinate group relations. If these variables were given the research attention that "minority deficiencies" are given by the special education establishment it would be found that these are precisely the conditions that "are the cause of the three hundred percent over-representation of Texas Hispanics in the 'learning-disabled' category rather than any intrinsic processing deficit unique to Hispanic children" (Cummins, 1986, p.9).

Part II

Breaking Away From the Medical Model--Establishing a Prereferral Process

A number of special education re-

searchers are convinced that, in order to move away from the medical model paradigm, it is essential to examine and change the manner in which minority language students are referred to special education classes in the first place. The underlying premise of the critics of the medical model is that schools must share the blame for why Hispanic students are not achieving as they should. Ortiz and Garcia (1988) note that many students do not achieve their potential in the classroom because of ineffective curricula and poor pedagogy.

The questions that Ortiz and Garcia pose are on the opposite end of the spectrum from the questions posed by the proponents of the medical model. The medical model asks what is wrong with the child. What is preventing him/her from learning? The questions asked by critics of the medical model investigate what is wrong with the teaching environment and the curriculum. They ask why and how the school is failing the student.

For a number of special education researchers "the referral step was a major factor contributing to disproportionate ethnic representation in special education" (Argulewicz and Sanchez, 1983, p. 453). "Educators (were) frustrated in their inability to determine which children have or have not been appropriately identified for special education services" (Chinn and Hughes, 1987, p. 45). For that reason, Ortiz and Garcia (1988) and their associates developed a prereferral process which unambiguously requires teachers to examine all that is done within the confines of the mainstream classroom and to make appropriate changes in instruction and curriculum before a student is referred to be evaluated for a special education placement. The purpose of this prereferral process is to ensure that the students' difficulties are not the result of cultural differences and inadequate curricula but are indeed the result of some internal deficiency in the student.

The most notable characteristic of this eight step process is that it could reasonably be used to ensure equity for all students who are experiencing learning problems, not just minority language students. In the case of the student who is culturally different this prereferral process is absolutely essential in order to avoid an inappropriate referral to special education.

The prerefferal process, as articulated by Ortiz and Garcia (1988), has eight steps. To begin the prereferral process (**Step 1**), the student's teachers and parents ask if the student is experiencing academic difficulty. If that is the case, it must be determined whether the curriculum being used is known to be effective for language minority learners (**Step 2**). Have other language minority learners been successful learners with the curriculum which is in place? If the answer is yes, the next step (**Step 3**) in the prereferral process is to ask whether the language minority student's problem has been validated.

This third step in the prereferral process is an extremely important element and it is crucial to understand what a radical departure this is from past practice and to examine the implications of such an action. The first part of this third step is to ask whether the child's problems have been documented at home and at school by both teachers and parents. The importance of this collaboration with parents who observe their children in different contexts from those at school is clearly demonstrated in an ethnographic study of three Mexican American children who had been referred to special education classes.

> With two of the children parents did not recognize their children as being different or having difficulty with communication. Yet, all three clinicians had perceived these children as having some type of language-disorder. ... the clinicians were not aware of what these children were capable of communicat-

ing with other children outside of the therapy room. David and Lupita had conversations with peers, siblings, and teachers. They were observed to take turns and maintain the topic of conversation when the topic chosen was interesting to them and the addressee. Observations of Lupita suggested that she mastered more linguistic and conversational ability than described by the clinician. Lupita attempted to use questions, playing with the language. ... David and Lupita, who were perceived by the parents as not language-disordered, were observed to interact with other children who possessed varying communicative and academic abilities.

Pete, who was perceived to be language disordered by his parents and the clinician ... resorted to nonverbal behaviors and voice inflection to request information. (He) was observed to be different by the other children, siblings, parents, teacher, and clinician. He did not have the linguistic, social, or discourse competencies to interact with children of varying communicative abilities (Kayser, 1987, pp. 14-15).

As a result of the observations described above Lupita and David were taken out of special education classes and returned to regular classes. Although the scope of this study was limited it can be said that two lives were potentially radically altered in a positive manner by its results. One must ask how many students, like Lupita and David, are mistakenly placed in special education classes throughout the United States. This ethnographic study clearly demonstrates that it is inappropriate and probably even immoral to evaluate language minority learners out of context.

The second part of this validation process is to ask whether the language minority student's learning difficulties are present both in the native language and in English. In this regard there seems to be general agreement that if a child is having learning difficulties in English but not in his/her native language then a referral to special education might be premature. The child may be simply experiencing the normal difficulties that anyone has who is trying to successfully learn a second language. The problem is that "unless regular educators understand second language acquisition, they will fail to provide the necessary language development support these students need to be academically successful" (Ortiz and Garcia, 1988, p. 16).

An additional finding by researchers is that there is not the necessary amount of testing to even determine what the student's dominant language is in the first place. Too much reliance is placed on anecdotal observations and intuition. Determining a student's dominant language is not as easy as it may appear at first glance since the use of language is a multifaceted phenomenon. It is quite apparent that some school districts do not emphasize this aspect of evaluation as much as they should (Benavides, 1988).

Clearly, much more needs to be done to train education students to be able to work with diverse cultural and linguistic groups and many more resources and incentives need to be offered so that good teachers in the field may update their skills to be able to work more effectively with a changing student population (Garcia and Yates, 1986; Fradd, Weismantal, Correa and Algozzine, 1988; & Cloud, 1993).

During the third part of the validation step in the prereferral process an evaluation is done to decide whether the student has indeed been taught but has not made satisfactory progress. Teacher knowledge of students' previous learning cannot and should not be assumed too easily. There are many students in the public education system today who have attended a number of schools in very different districts. It cannot be automat-

ically inferred by one teacher in one school that a particular student has already been exposed to a particular topic of study. The educational history of a student must be investigated to verify these assumptions.

One of the most controversial elements in the validation step of the prereferral process is the fourth part which is to determine whether the teacher has the qualifications and experience to effectively teach the student. This is a sensitive point because researchers are advocating that it is appropriate to question the teachers' competence to teach language minority students. How can a teacher refer a bilingual Hispanic student to special education if he/she knows nothing about second language acquisition? Is the teacher knowledgeable or does she/he exhibit an interest in the cultures of his/her students and try to structure the curriculum to make it culturally sensitive? Is the teacher aware of research on the cultural biases of teachers and how these biases affect student learning outcomes? Is the teacher aware of his/her own biases and how they might negatively impact the learning of culturally different students?

Unfortunately, negative expectations of teachers and teachers' biases do play an important role in many referrals of language minority students to special education. This phenomenon, however disheartening it may be, must be recognized and dealt with in teacher education classes as well as in in-service and staff development programs. The fact of the matter is that

> ...minority children are expected to have higher incidences of handicaps than other groups. ... minority children are judged as less competent than their peers. ... teachers tend to refer children (to special education) who bother them. In some cases, migrant and immigrant children tend to be referred sooner than other children, frequently before they have had the opportunity to adjust to the new demands and expectations of a new system (Sugai, 1988, pp. 66-67).

As the discussion of teacher competence indicated, the potential for bias does exist, but it would be simplistic to say that teachers are the only ones who must be aware of this potential. Throughout the validation section of the prereferral process parents, teachers, administrators, psychologists and other evaluators must be conscious of the fact that there are many possible ways that bias can enter the referral process in special education (Bailey and Harbin, 1980).

In order to avoid placing minority language students in special education classes inappropriately Bailey and Harbin advise that decisions be made in teams and not by particular individuals. In this way various team members can question one another. This team must then determine what the necessary academic skills are that students must acquire and the possible gap between students' current abilities and what they must do to close the gap. Lastly, they assert what a number of other researchers have already stated:

> ...the evaluation process must be conducted from an ecological perspective. This means that a child's performance must be evaluated within the total context of the settings in which he or she functions. These settings include the home, school, peer groups, and community, as well as the interrelationships existing between them. (Bailey and Harbin, 1980, p. 595).

The validation or verification process which is **Step 3** in the prereferral process is quite extensive, but if one were to ask the questions that Ortiz and Garcia propose much more information could be gained than if one were to simply use a standardized achievement test or intelligence test.

According to Ortiz and Garcia (1988), during **Step 4** in the prereferral process the evaluator(s) would investigate whether a systematic effort has been made to identify the origins of the student's learning difficulties and whether instruction or curriculum have been changed in order to improve the learning that is occurring. The important point in this step is that the teacher is being challenged to try to see if he/she can do anything to improve his/her teaching methods and materials. In **Step 5** an evaluation is done to see if the particular student in question is still having problems learning in spite of the fact that the teacher has made changes in his/her pedagogy and instructional materials. If this is indeed the case, and the language minority student is still not learning, teacher and student then move to **Step 6** which is to investigate the appropriateness of programming alternatives. In the case of the Hispanic child or other minority language learner the most promising options may be ESL classes or bilingual education classes. In **Step 7** it is determined whether these other programs have been helpful to the student or not. If the student is still not progressing, a referral to special education might be the most appropriate course of action to take. This is **Step 8**.

At first glance the implementation of a prereferral process may very well seem to be a daunting and time consuming task for the normal everyday teacher who is already overburdened with too many demands on his/her time and emotional energy. Obviously, participating in a prereferral process cannot be the responsibility of individual teachers. It must be something that all of the personnel in a school are committed to. But why should school administrators, teachers, and support staff even want to support such an endeavor?

> First, regular education teachers are given a level of assistance that enables them to keep the student in the mainstream and to avoid creating a "pull-out" situation. Second, the likelihood of inappropriate and/or highly segregated placements can be reduced. Third, the quality of the educational programming available in the general education setting can be enhanced. Fourth, the focus of educational interventions is retained in the regular education classroom or setting. Finally, the cooperative relationship between regular and special education is reinforced (Sugai, 1986, p. 70).

School administrators especially should be interested to note that one of the most important outcomes of a properly implemented prereferral process is a reduction in financial expenditures (Benavides, 1988).

Metz (1988) summarizes the need for changes that many special education practitioners are beginning to feel.

> ...there is a growing realization among bilingual special educators that neither the perfect test nor the perfect procedure(s) can be found. One must, therefore, begin to look at the less tangible aspects of decision making to ensure quality assessment (pp. 214-215).

Certainly, one of the least tangible but probably most important aspects of decision making in the special educational referral process must include the participation of the parents of potential special education students. As was mentioned before, parents are valuable but often untapped mines of information about their children. It is time that special educators elevate the role of the parents in the evaluation process. The importance of such a step is discussed in the next section of this paper.

The Role of Parental Participation in the Bilingual Special Education Evaluation

It was clearly illustrated in the ethnographic study of three Mexican American

children referred to special education previously reported on in this paper that parents had a significant amount of knowledge about the cognitive abilities of their children that clinicians did not have access to. Since it is the law that parents must consent to the referral of their children to special education classes (P.L. 94-132) it must be asked why Hispanic parents consented to their children's referral to special education when they obviously had doubts about the nature and purpose of the referral.

In a study comparing Hispanic, Black, and Anglo families and their impressions of their children's special education programs (Lynch and Stein, 1987) it was reported that "Mexican American families were satisfied with their children's special education programs, but they were less knowledgeable and less involved in them than parents of Anglo and Black students receiving special education services" (p. 109).

From this small bit of isolated information it could be tempting to infer that the parents of Mexican American children are not interested in the education of their children but this myth has been dispelled on a number of occasions. The fact is that not only do Mexican American parents want their children to get much more education than they themselves received, but these parents also expect their children to postpone marriage and having children and wait for full-time employment until after they have finished their college education (So, 1986). According to Lynch and Stein (1987) the problem with Mexican American parents is that they trusted school personnel too much to make the correct decisions about the most appropriate placement for their children.

One important factor that Lynch and Stein do not mention, yet does figure prominently in the literature, is that there is significant historical evidence which demonstrates that Mexican American parents often have been discouraged from participating directly in the education of their children by authoritarian teachers or racist school personnel (Acuna, 1988). Lynch and Stein (1987) are absolutely correct when they say that "it is incumbent on the system to find ways of encouraging families from the non dominant culture to participate" (p. 110) in the special education of their children. School systems must also be aware , however, of the very negative history between schools and Mexican American parents (Acuna, 1988) and realize that these historical precedents cannot be overcome without considerable effort and persistence over a significant period of time.

A recent ethnographic study of 12 Puerto Rican families with children in special education classes produced similar results to those studies examining Mexican American families. Most Puerto Rican parents in the study denied that their children were having learning problems because of some internal cognitive deficiencies. These parents attributed their children's difficulties to external factors (Harry, 1992).

Most often the Puerto Rican parents explained their children's problems as being the product of confusion resulting from the difficulties in learning English. This would obviously confirm what a number of bilingual special education researchers are discovering. It is difficult to differentiate between an individual who is going through a normal process of learning a second language and an individual who is demonstrating symptoms of a learning disability (Benavides, 1988). And parents, irregardless of their socioeconomic status, ethnicity, or first language have an important contribution to make when education professionals are determining the most appropriate referral for their children (Harry, 1992).

In addition to the positive impact that parental observations can have on the

special education diagnosis and referral process, Beth Harry (1992) confirms what the majority of bilingual special education researchers cited in this paper assert; education professionals must be extremely cautious and conservative when it comes to referring language minority learners to special education because the most commonly used evaluation instruments and methodologies are extremely suspect. She says that "it is time for us to abandon our reliance on a model whose main effect is to locate the source of failure in the child" (p. 36). Harry and many others in this paper are calling for nothing less than a "paradigm shift from decontextualized, acultural, and asocial interventions, toward conditions of high context, both in assessment and instructional approaches" (Harry, 1992, p. 37).

Conclusion

Because Hispanic students are overrepresented in special education classes there is evidence to indicate that the narrow, decontextualized focus of quantitative testing and psychometric measurements, which are the foundation of the medical model, are not able to accurately and thouroughly describe what is going on inside minority language learners. In addition, the author of this paper believes that the problems that Hispanic students have encountered in the special education system are not limited to them alone, but are shared by a large number of other language minority students as well, and possibly even those students who are English monolingual.

Bilingual special education researchers within the past ten years are developing methodologies such as the prereferral process to examine all of those factors that are external to the Hispanic student that may be preventing the student from learning. Given all the information and research that is available the critics of the medical model have caused the special education community to question the validity of referring minority language learners to special education classes based solely on the testing that is currently being done. As the number of Hispanics and other language minority students in the school systems continues to increase the inadequacies of the current medical model paradigm will become more evident.

The attacks that have been leveled against the medical model used to refer students to special education classes will cause a number of special educators great stress. However, a much more holistic paradigm is coming in to focus which obligates special education professionals to view students in their entire context. As the elementary and secondary students in the American public schools represent a much more diverse ethnic and racial mix it is imperative that the university students in special education teacher preparation programs know something also about bilingual education, teaching English as a Second Language, and/or multicultural education. This is not to suggest that all special education programs become bilingual special education programs. It is simply suggested that special education professionals seriously consider and attempt to apply methodologies such as the prereferral process in order to improve the education of all of their students.

It is also recommended that teacher inservice programs for special educators focus much more on the learning problems of language minority learners than has been the case in the past. The rapidly changing demographics in the most populous school districts in the United States demands that schools and teacher development and preparation programs respond to the new kinds of students that are in today's classrooms with new models and methodologies. The disheartening statistics unquestionably prove that the old assumptions and models (i.e. the medical model) are not working in today's schools with today's students.

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Integration PLUS: A Community Based Social Learning Program for Youth with Mental Retardation and Physical Aggression

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Abstract: This paper describes a supported living program for youths with mental retardation and challenging behaviors such as physical aggression. The program provides short-term (i.e., 3-6 months) community-based services with an emphasis on self-management training used to develop independent living and social skills. The development of structured environments in the community that reduce disruptive social behaviors and promote self-control is stressed.

Introduction

Serving individuals with dual diagnoses of mental retardation and mental illness has long been an either/or situation. Many programs are designed to focus on only one of these disabilities. As a result, many individuals with mental retardation and challenging behaviors such as physical aggression have been placed in restrictive, segregated, residential treatment programs.

Landesman-Dwyer (1981) conducted an extensive review of the literature on community living and deinstitutionalization. The most consistently reported finding in the literature she reviewed was that antisocial aggressive tendencies often lead to return to the institution.

Scanlon, Arick and Krug (1982) reported four areas of maladaptive behavior that distinguished persons with severe disabilities who were institutionalized from those with severe disabilities who were placed in the community. These areas were aggression, destruction of objects, temper tantrums, and impulsive behaviors. The same authors maintained that the success of community placements would be enhanced by reducing or eliminating these behaviors.

Molony and Taplin (1988) pointed out that the majority of successful programs for management of challenging behaviors reported in the literature are based in institutional settings. The same authors noted the relatively low number of these programs implemented in the community. They contended that implementing structured programs in community settings should increase the number of persons with aggressive behaviors who can live in the community.

Galligan (1990) described a center-based program specifically designed to serve individuals with mental retardation and mental illness. Fifty-eight adults participated in the program. They ranged in age from 18 to 71 years of age. Thirty-six percent had mild retardation; 27%, mod-

erate; 27%, severe; and 10% of these individuals had profound mental retardation. Their psychiatric diagnoses included psychotic conditions, personality disorders, conduct disturbances and schizophrenia.

Galligan reported significant gains in functional skills and significant decreases in the frequency of problem behaviors after one year in the program. She noted, however, that while these individuals showed a great potential to move to less restrictive settings in the community, lack of residential and community supports served as obstacles to their further growth.

This paper describes an integrated social learning residential program for children and youths with the dual diagnoses of mental retardation and mental illness. This program has been designed specifically for individuals ranging in age from 8 to 21 years. These youths have mild to moderate levels of mental retardation. In addition, they have psychiatric diagnoses including conduct disorders, psychotic disorders, and personality disorders. All have histories of physical aggression and institutionalization.

The Integration PLUS program emphasizes the development of structured environments that reduce disruptive social behaviors and promote self-control. Specific components of the program include: (a) a Self-Management Log that combines the use of a self-managed reinforcement system, contingency contracting, and antecedent control; (b) the 10 R aggression management system that includes restitution, positive practice, self-control, relaxation training, social skill training, and inclusionary time-out; (c) curriculum strategies that include development of adaptive social behaviors, personal care, money management, community access, recreation skills, vocational training and meal management; (d) fading procedures that ensure that at any given time, youths are exposed to the minimum amount of structure necessary to maintain success; and finally, (e) monitoring procedures used to make program decisions. Each of these elements will be described separately.

Self-Management Log

The Self-Management Log (see Figure 1) is a focal point of the Integration PLUS program. It is the tool with which all elements of the residential program are bound together. The Self-Management Log is used both as a planning instrument that ensures that all goals are given appropriate attention, and an implementation instrument that is carried by the youth throughout the day. The Self-Management Log includes the following elements.

Schedule periods. The residents and staff record time periods in which daily living and educational activities occur. Schedule periods are sufficiently short to reflect the attention span and capabilities of individual residents. Highly distractible residents (more severely disabled or less mature) are likely to have brief schedule periods (e.g., 15 to 30 minutes). Older and more focused learners may have more ambitious schedule periods (e.g., 40 to 55 minutes).

Scheduled breaks for reinforcement. Thirty minute break periods are scheduled at two hour intervals. As will be discussed later, breaks are earned when residents complete assignments, remain in their assigned areas, and refrain from exhibiting disruptive social behaviors. Residents who fail to earn breaks may be requested to "catch up" on assignments not completed during scheduled periods, complete enrichment activities, or remain idle.

Goal areas corresponding with habilitation goals. Goal areas (e.g., domestic care, social skill development, math, English, reading) are entered in the

Figure 1. Self-Management Log

DATE	%	NC=noncompliance
NAME	%	VA=verbal aggression
TOTAL %	%	PA=physical aggression
	%	A=assault
	%	AA=assigned area
	%	PR=pers. responsibility

PERIOD	ASSIGNMENT	NC	VA	PA	A		AA	PR
1		5	10	10	60		5	5
2		5	10	10	60		5	5
3		5	10	10	60		5	5
4		5	10	10	60		5	5
5		5	10	10	60		5	5
6		5	10	10	60		5	5
7		5	10	10	60		5	5
8		5	10	10	60		5	5
9		5	10	10	60		5	5
10		5	10	10	60		5	5
11		5	10	10	60		5	5
12		5	10	10	60		5	5
13		5	10	10	60		5	5
14		5	10	10	60		5	5
15		5	10	10	60		5	5
16		5	10	10	60		5	5
17		5	10	10	60		5	5
18		5	10	10	60		5	5
19		5	10	10	60		5	5
20		5	10	10	60		5	5

second column of the Self-Management Log. This is accomplished initially by the staff establishing non-negotiable activities and/or times. For example, personal care may be scheduled from 7:00 to 7:30 so that the resident has time to eat breakfast (7:30 to 8:00) and walk to school (8:00 to 8:30). Similarly, a resident may be required to schedule two periods of home work. In this case the youth may choose the time of day for homework activities.

Residents may schedule remaining goal areas (e.g., leisure activities) following consultation with the staff. Staff may assist the resident in developing the most enjoyable and productive schedule. For example, the staff may point out that goal areas involving sedentary activities that require concentration and attention to task (e.g., writing to parents, meal planning, etc.) are best scheduled early in the day. More active goal areas (e.g., recreation, shopping, etc.) are best scheduled later in the day. Residents are also encouraged to alternate pleasant and unpleasant activities.

Assignments. Staff members record specific products that are expected to result from the resident's participation in scheduled activities (e.g., wash dishes, complete math homework, clean bathroom, etc.). As will be discussed later, materials to complete these assignments are placed in a discrete area so that residents can begin the activity with minimal assistance. Staff members also stipulate additional pleasant activities available to residents when assigned activities are completed prior to the end of a period. These generally include leisure activities such as watching television, playing video games, and bike riding.

Response Cost Areas. Behaviors that result in the loss of points used to earn break periods are identified near the upper right-hand corner of the Self-Management Log. Response cost areas are stipulated in the habilitation goals for each resident. Most often goals and corresponding response cost areas include the reduction of noncompliance, verbal aggression (e.g., yelling, cursing, insulting another), physical aggression toward an object, and assault directed at another individual. Depending on the social characteristics of a resident, they may also include the reduction of stereotypic behaviors, self-abusive behaviors, and using others' possessions. The staff avoid indicating more than four reduction targets at any one time.

Award area. Behaviors that result in the acquisition of points used to earn break periods are identified in the upper right-hand corner of the Self-Management Log. Award areas correspond with education and habilitation goals that indicate the development of positive social behaviors. For a majority of residents in the Integration PLUS program, the award areas include assigned area and work completion. Alternative award areas such as specific social skills are used when indicated by the resident's habilitation plans. From two to five accelerative goals are typically identified in the youths' Self-Management Logs.

Point values. A handbook containing dockage and award areas, as well as point total required to enter break, is available to staff members and residents. An individualized economy is developed for each resident. The economy balances awards with dockages. Point totals required to enter break reflect the quality of prosocial behavior expected of residents. In the most common case, work completion and remaining in assigned areas results in five points each for the period. If verbal aggression or physical aggression occurs in the period, the youth loses 10 points each. Noncompliance results in the loss of five points each period. Assault results in the loss of 60 points.

Residents possessing any number of positive points are eligible to enter break.

Extra points may be used to purchase additional privileges during break (e.g., five points for each play of an electronic game, 10 points for five minutes of ping-pong, 5 to 20 points for nutritional snacks). Under this economy, a youth may receive all work and assigned area points for the four periods preceding the first break (i.e., 40 total points). If assault occurs any time during the five periods, the resident loses break privileges (40 points for assigned area and work completion minus 60 points for physical aggression). A resident may gain 10 points in a period for assignment completion and remaining in the assigned area. These points may be offset by a 10 point dockage for verbal aggression or object aggression.

Positive points cannot be carried over from one break period to the next. This is to avoid youths saving up sufficient points to earn a break even though they recently engaged in extremely disruptive behavior. Similarly, negative points cannot be carried over. This is to avoid youths losing so many points prior to one break period that there is no possibility for the youth to earn a subsequent break later in the day.

All dockage points in a category (e.g., 10 points for verbal aggression) are taken for any occurrence of the behavior until the next period. This provision reduces the likelihood that a single chain of disruptive behavior (excluding assault) in one period will result in the loss of incentive to regain control for the next period.

Finally, the only provision for regaining lost points results from residents earning prestated work and assigned area points. In some cases, a dockage may be so severe (e.g., assault, or verbal aggression coupled with noncompliance and object aggression) that the remaining work and assigned area points are not sufficient to produce break. In this case, the youth must wait until the periods preceding the next break to begin work toward break. This provision avoids situations in which a chain of disruptive and positive behavior is reinforced. For example, in the chain aggression – point dockage - apology and restitution – reinstatement of points – the reinstatement of points may not only reinforce apology and restitution, but also the initial aggressive behavior.

All staff consistently implement Self-Management Log procedures. In addition, all youths admitted to the program receive a handbook describing the Self-Management Log and other social development procedures. A substantial amount of time is spent teaching the youths these procedures. Specific implementation rules are emphasized.

First, youths are told that they may engage in scheduled assignments, pleasant activities resulting from the early completion of scheduled assignments, or nothing. If room care is assigned and not completed, the youths are not permitted to engage in any other activity.

Second, scheduled periods are not altered once negotiated and agreed upon by the youth and staff. Youths are taught that math occurs at a predetermined time and that only the program director can change the schedule. It is hoped that this provision will result in residents habitually complying with their schedule. It also reduces the likelihood that residents will manipulate the schedule using disruptive behavior (e.g., engage in disruptive behavior to avoid unpleasant activities).

Third, materials corresponding with Self-Management Log assignments are located in a predetermined location of the residence. Youths are taught to habitually enter each new period by identifying the assignment, obtaining the necessary materials, and beginning work. This provision reduces transition time from one activity to another. It also reduces disruptions typically associated with unstructured transition time.

Fourth, residents are taught that warnings are not given prior to awarding or docking points. The only exception is for noncompliance which is defined as the failure of a youth to comply with general instructions following one request. Points are docked immediately following the occurrence of the dockage behavior. To ensure that youths can accurately anticipate the consequences of any behavior, staff agree at least 80% of the time on what constitutes dockage and award behaviors. This requires substantial discussion between all staff regarding specific award/dockage behaviors and their definitions.

As an informal test of the staff's consistency in enforcing dockage and award rules, two members of the instructional staff periodically score the youths' Self-Management Logs independently through an entire day. At the end of the day, the number of agreements for awards and dockages is divided by the number of agreements PLUS disagreements. The resulting coefficient is expected to be above 80% for each award and dockage area. If it is not, the staff members discuss responses that created confusion and redefine the dockage or award area (if necessary) to reduce future confusion.

Break Activities

Break activities are used to develop an unvarying relationship between positive behavior and positive consequences. At such time that residents no longer require this structure, entry to break activities becomes automatic, as in a typical home. Removal of "earned" breaks occurs as a result of the level system that is described later.

Residents earning breaks may have free time, participate in the anticipated break activity, or buy special privileges with extra points. Youths not earning breaks continue to do school or residence assignments. Unfinished work from the preceding periods and enrichment work are completed by youths not earning break.

Aggression Management Strategy

The Prosocial Response Formation Technique described by Schloss (1984) is used as a back-up procedure for ensuring that youths do not use disruptive behaviors to gain satisfying consequences or avoid unpleasant consequences. Further, the technique ensures that residents make restitution for physical or emotional damage that results from their disruptive behavior. Also, it requires that residents identify and practice alternative prosocial responses that may replace the disruptive behavior.

Following any aggressive action, the following procedures are carried out by the attending staff member.

1. ***Response cost***. The resident will dock points from the Self-Management Log.

2. ***Relax***. Aggressive reactions are typically associated with heightened negative emotionality. Negative emotional behavior is further heightened by the response cost. Reducing negative emotional behavior will increase the likelihood that the child or youth will benefit from subsequent socially enhancing activities. Therefore, the second step is to remove the youth from all sources of reinforcement until he or she is relaxed. The youth is required to enter a non-exclusionary time-out area visible to other students and program staff until he or she is relaxed for three minutes. Relaxed is defined as talking in a normal conversational tone, keeping body parts still, breathing deeply through the nose, maintaining normal facial tone and expression. Until the criteria for relaxation are achieved, all social interaction and other potentially reinforcing events are withdrawn from the youth. Once the criteria

are achieved, the youth may progress to the next step.

3. ***Rectify***. The resident is instructed to correct any physical or emotional damage caused by the aggressive behavior. Any reoccurrence of negative emotional behaviors at this time or later in the process automatically results in a return to the relax condition.

4. ***Recognize***. The resident will identify the discrete and observable events that led to the aggression. He or she is also asked to identify alternative positive behaviors that may have been used in the situation. For example, a youth may indicate that he or she was verbally aggressive as the result of another youth calling him or her names. He or she may also indicate that it would have been better to ignore the youth or to ask the staff for assistance in resolving the problem.

5. ***Rehearse***. Once the provoking events and alternative prosocial behaviors are identified, the resident will rehearse the provoking situation using the alternative prosocial behavior.

6. ***Reinforce***. The youth is then praised for engaging in the alternative positive behavior.

7. ***Reflect***. The resident is asked to compare the consequences of two ways of dealing with provoking stimuli. (a) He or she will indicate the number of points lost through inappropriate behavior. (b) He or she will indicate the associated loss of privileges and the required restitution activities. (c) For the alternative prosocial behavior, the resident will indicate that there were no comparable negative consequences. (d) The resident will identify favorable consequences that follow the appropriate behavior.

8. ***Re-enter.*** The resident re-enters his/her daily schedule printed on the Self-Management Log at the most unpleasant activity missed during the aggressive episode. The schedule may subsequently be readjusted to make up for the time spent engaging in the preceding process. Readjustments typically take the form of eliminating the most pleasant activities missed. This is to reduce the likelihood that residents engage in disruptive behaviors to avoid unpleasant scheduled activities.

9. ***Record***. A narrative of each aggressive reaction is kept for each youth. The narrative includes a detailed description of antecedents and consequences of each response.

10. ***Repeat***. This procedure is used every time an aggressive reaction occurs. It is carried out by any staff member working directly with the resident when he or she becomes disruptive. This is expected to teach residents that all adults are equally demanding of socially enhancing behavior.

Relaxation Training

A large proportion of residents served in restrictive settings exhibit deficiencies in establishing or maintaining emotional control. Aggression and other nonadaptive reactions often result from this lack of emotional control. Therefore, Integration PLUS includes procedures designed to enhance emotional control. Progressive muscle relaxation exercises described by Bernstein and Borkovek (1973) are scheduled three days each week on each youth's Self-Management Log. Skills acquired during relaxation training are prompted daily as a preventive measure. In addition, relaxation responses are prompted following aggressive reactions. This is expected to assist residents in regaining emotional control. Specific relaxation skills include breathing deeply through the nose, talking in a normal conversational tone, keeping hands and body parts motionless, and maintaining a normal facial expression.

Social Skill Instruction

Many program residents do not possess interpersonal skills expected in the community. Specific deficits often include appropriate responses to criticism, asking others to behave differently, complimenting others, greeting others, and negotiating rather than fighting. A new social skill becomes the focus of instruction in the residence as previous objectives are mastered. The first two weeks, for example, focus on appropriate ways to ask staff members for assistance. The next two weeks focus on reactions to criticism.

Direct instruction in social skills is scheduled periodically on each youth's Self-Management Log. Beyond this, personnel continually strive to identify and praise youths using target social skills during the day. As with relaxation skills, social skills are promoted as part of the preceding aggression management process. Specific social skills are often indicated as the alternative prosocial behavior that is expected to replace aggressive reactions.

Fading Procedures

Extraordinary scheduling, instruction, and motivational procedures included in the Self-Management Log and the prosocial response formation technique are faded once the youth demonstrates the ability to benefit from more traditional residential conditions. The fading procedures are expected to increase the likelihood that youths will make an effective transition from the Integration PLUS program to nontherapeutic residential settings. The program, therefore, includes levels of structure beginning with the most restrictive and ending with the least restrictive. Youths enter the Integration PLUS program at a more restrictive level of structure. Once youths meet predetermined behavioral criteria, they progress to a less restrictive level. Specific levels include:

Level One - Standard Program. Level One involves the use of all program procedures described in this paper. These include the full Self-Management Log, the prosocial response formation technique, social skills training, relaxation training, and so on. Youths enter the program at Level One and move to Level Two depending on their behavior.

Level Two - Unrestricted Residential Program. Level Two involves the same program procedures as Level One except that the response cost and award areas are removed from the Self-Management Log. Also, breaks and privileges are given automatically. Residents in Level Two may plan trips to community recreation and consumer settings. However, they must be "shadowed" (i.e., remain within visual contact of a supervising staff member). Youths enter Level Two by achieving 80% of their points in Level One for three consecutive weeks.

Level Three - Unrestricted Community Access. Level Three includes all of the elements of Level Two. In addition, residents may plan and carry out independent trips to the community. They may also remain in the home without supervision. Youths are eligible for entry to Level Three when they have had no occurrences of unassigned area, noncompliance, verbal aggression, physical aggression, or assault and have completed over 80% of their assignments for two consecutive weeks.

Room Restriction

Youths remain in their bedroom immediately following incidents of assault. The door to the room is left open and a staff member is stationed in the room. All program procedures are in effect except that regardless of points earned for a period, the youth is not eligible for break activities. Also, social interactions are limited to direct instruction by the staff. The youth must earn all assigned area

points and 80% of work points and not lose any noncompliance or aggression points for the four hour shift following the incident to return to the general program.

Long-Term Incentives

As discussed previously, youths begin each period following break with 0 points. Prior to each break, youths can have up to 50 points, depending on their behavior. Point dockages and awards are never carried over. Beyond these short-term incentives, we would like youths to eventually work toward long-term goals (e.g., grades every nine weeks). Therefore, percentages of points earned each week are computed. Youths earning over 80% of available points gain a special weekly privilege (e.g., Friday party, a special movie, a field trip).

Monitoring System

The daily percentage of points earned for assigned area and work and points lost for each of the dockage areas are recorded on separate graphs for each youth in the program. As was discussed previously, these data are used to determine if a youth is ready to be advanced to a less restrictive level of the program.

This record also assists the staff in identifying youths who are not responding to the general program. When a youth's data indicate that one or more of the target behaviors is not being changed in a positive direction, the staff's first approach is to develop an individualized management program. Depending on the staff's impression of why the youth is not progressing, the individualized program may include more frequent break periods and more frequent but shorter work periods, the use of primary reinforcement rather than secondary reinforcement (i.e., points), modifications in scheduled activities, use of more severe consequences, and so on.

Summary

It has long been common practice to serve people with the dual diagnoses of mental retardation and mental illness in segregated, institutionalized settings. While it is desirable to provide a full continuum of placement options, enabling people to live in the least restrictive and most normal setting is of highest priority. Integration PLUS, the integrated social learning program described in this paper, provides the supports necessary to allow people who are physically aggressive to live in the community.

The major features of Integration PLUS have been described. First, the program is systematic and data-based. The tool that allows for all of the program elements to be monitored is the Self-Management Log. It is an instrument used in both planning and implementation of the day's objectives. The Self-Management Log breaks up the resident's day into short, clearly defined periods of activity. The log also provides for reinforcing breaks when the resident completes his or her scheduled assignments. Some of the assignments are non-negotiable, such as personal care, meals, or homework. These assignments most often correspond with goals stated in the resident's habilitation plan. The remainder of the day's assignments may be chosen by the resident with minimal staff direction. Planning one's day in an appropriate fashion could be one of the goals included in habilitation plans.

Second, the program is consistent. Managing aggressive behavior in community settings is best accomplished through consistency. Residents should never be allowed to gain satisfying consequences by displaying disruptive behaviors. The Prosocial Response Formation Technique used in this program ensures that disruptive behavior produces no positive consequences and instead, leads to making restitution for inappropriate actions. The technique also requires the

identification and practice of alternative prosocial responses to replace the disruptive behavior. In addition, this technique provides a consistent set of procedures for staff to follow after every occurrence of disruptive behavior.

Third, the program includes relaxation training. Maintaining emotional control is a skill that is not in the repertoire of most people who are dually diagnosed. This loss of control is usually followed by a display of antisocial, sometimes aggressive and/or assaultive behavior. The Integration PLUS program includes procedures to teach residents relaxation skills through progressive muscle relaxation.

Fourth, Integration PLUS emphasizes social skills training. Social skills deficits may be the foremost barrier to serving people in community-based facilities. Many times, occurrences of antisocial behavior begin with a display of inadequate social skills. Direct instruction in social skills is periodically included on a resident's Self-Management Log. Skills are taught in their natural settings and are continually promoted by staff.

Finally, as with all successful teaching methods, structure is removed as the learner demonstrates he or she no longer needs it. The Integration PLUS program uses a level system beginning with the most restricted, level one, to the least restrictive, level three. Upon meeting behavioral criteria, residents proceed to a progressively less structured daily routine. These levels of structure, and the criteria for achieving them, are clearly defined for the residents upon entering the program.

This program has been implemented successfully across several settings. It can be used in schools, group homes, supported employment sites, and supported living arrangements. The program is easily adaptable to the specific needs of consumers and service providers in any community. Keys to successful implementation include appropriate and continuous staff training, clear presentation of procedures, goals, and objectives to residents, and most importantly, careful and ongoing monitoring to ensure consistency.

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Striving for Development: An Overview of Special Education in Mexico

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Abstract: This article attempts to provide the reader with a general idea of the state of past and current special education practices and trends in Mexico. Historical milestones, the perception and meaning of disability in Mexico, the incidence and nature of disabilities and the principles and policies guiding of special education practices are also briefly exposed and discussed. The current status of special education and rehabilitation practices in Mexico is critically examined in an attempt to identify future trends and directions in this area.

Background

The origins of special education services in Mexico can be traced to the liberal government of Benito Juárez in 1867. At that time, the Mexican educational system was declared officially as non-religious in nature and compulsory for children under the age of 12. The first school for the deaf was founded and three years later the National School for the Blind opened its doors.

Despite these early attempts to provide education for children with disabilities, special education services did not flourish until the early 60's, when the federal government under the pressure of the recently approved educational reform laws was forced to create the General Direction of Special Education, an agency having responsibility for development of policy and resources to educate children with special education needs.

This agency's first action was the establishment of special education departments in each of the 31 federal states across the country. These departments coordinate service delivery to children with disabilities in accordance with federal and state policies. Their regional autonomy facilitates decision-making processes that take into account ethnic, social and cultural differences, as well as the special conditions prevalent in the diverse regions of Mexico.

Mexico is a developing country of roughly 2,000,000 kilometers and approximately 90 million people, mostly Roman Catholic. The average age is 16 years old, and 40% of the population live in rural areas. The official language is Spanish. Mexican society is composed of a multi-ethnic, Mestizo population. Sixty percent of the adult population is dedicated to labor or agriculture.

Although the state allocates almost a third of its annual budget to education, the educational system presents many limitations considering that nearly 24 million Mexicans (1 out of 3.5) attend the school system.

Services

The special education system has established special schools to meet a variety of problems. For example, there are

several special centers for perceptive problems (visual, auditory), psychomotor limitations, and schools for children with mental retardation and cerebral palsy.

Emphasis has been given in the last four years to the development of multidisciplinary centers for screening, diagnosis and referral of children who are identified as having learning difficulties. Resource - rooms that function in the regular schools at various times have been strongly supported recently.

In addition to the basic services mentioned above, early stimulation centers have been created in a multidisciplinary basis with the purpose of providing early physical, psychological and medical attention to newborn or young children, usually with congenital disabilities, as well as orientation and support for their parents.

Resource rooms are special situations integrated within the schools that focus on the support of children with learning disabilities (68% of all children considered with a disability). There are also training facilities for older children, protected industries and a few residential facilities, since the extended family structure tends to embrace children with disabilities within the family (Sánchez, 1992). Some private institutions or charity driven residencies provide services to children with special needs, however these centers attend to a relatively small number of disabled adults and children (less than 1% of all students with disabilities).

Unfortunately, many children with special education requirements remain undiagnosed in the primary school system, a fact that is believed to significantly account for the outrageous 45% overall drop out rate reported for the primary school level in 1990.

Table 1 summarizes the number of centers and the students attending the special education system in 1991.

In this table, it can be observed that the number of students registered in special education services is very small considering the number of children in the school system in Mexico. Also, that the federal government is responsible for administering about 87% of all services, and the few private facilities available. As expected the majority of these children are considered to present a learning disability. For these children, specially trained staff (speech therapist, academic support and additional classes) are currently available in one third of the primary schools. Regarding other disabilities, it can be noted that almost 17% of all children with disabilities receive serv-

Table 1. Special education in Mexico (1992)

SERVICES	Federal	State	Private	TOTALS
Early stimulation	35	2	12	49
Special schools	556	95	36	687
Resource rooms	547	20		567
Psico-educational centers	438	67	9	514
Training centers	76	6	1	83
Diagnostic centers	36	4	1	41
TOTALS	1688	194	41	1941

Students				
Area	Federal	State	Private	TOTALS
Mental retardation	29159	2696	580	32435
Auditory	5939	685	80	6704
Psychomotor	1552	167	218	1937
Visual	598	148	142	888
Behavior	1498	654	40	2192
Learning	118763	11610	461	130834
Language	8910	1152	84	10146
Others	5432	846	5	6283
TOTALS	171851	17958	1610	191419

ices designed for mental retardation.

Perception and meaning of disability

Some characteristics about the meaning and perception of disability in Mexico can be drawn from the works of American researchers with Mexican families living in the US, mostly in the border area, as well as from the few published works by Mexican researchers in this field.

Smart and Smart (1991) studied Mexican families who emigrated to the US and suggested four distinguishing features that influence Mexicans' perception of disability: 1) a cohesive and protective family; 2) stoic attitudes toward life in general; 3) well defined sexual roles and 4) a prevalence of religious attitudes. However, the literature regarding the Mexican's perception of disability produced outside of Mexico has failed to differentiate personality from ideological factors that characterize the individual's behavior towards the family. For example, Ramirez and Castaeda (1974) suggested that the Mexican adult's sensitivity to others and the desire for a collective harmony depend on specific psychological traits such as higher levels of field dependence and lower levels of internal locus of control. However, Holloway, Gorman & Fuller, (1987) did not confirm their hypothesized relation between higher levels of efficacy and external attribution. Hence, cooperative behavior in family members may be attributed to ideological (values) factors, rather than to personality traits. In this respect, Marín and Triandis (1985) supported the notion that in Latin-American countries there is a trend toward a collectivism that emphasizes values and goals of members of the group as opposed to other developed societies which are more idiocentric or oriented toward individualistic values. Holloway et al. (1987) suggested that in Mexican families, the development of cooperative skills and sensitivity were more important than independence and assertiveness.

Several other idiosyncratic attitudes in the Mexican population need to be acknowledged as important in influencing attitudes toward disabilities. For example, Holtzman, Diaz-Guerrero & Schwartz (1975) characterized the attitudes of Mexicans as fatalistic, while Smart and Smart (1991) described the attitudes of Mexican-Americans as stoic. In general, Mexican attitudes toward dis-

ability have been characterized as fatalistic, due to the belief in this population that what happens is predetermined, a matter of one's destiny, and must be accepted (Holtzman, et al. 1975; Harward, 1969).

Sánchez (1992) found that in rural areas, Mexicans show magical attribution to some disabilities, specifically mental retardation is seen as a consequence of God's will or alcohol abuse or contraceptive practices; and Harper and Sánchez (1993) found that children's perceptions of peers with disability was related to both gender and the socioeconomic status of the child. For example, Mexican children from low SES preferred obese children over children from higher status and girls accepted more obese children than boys.

Also important is the attitude of Mexicans and other Hispanics toward agencies and institutions. For example, Correa and Weismantel (1991) characterized Mexican-American attitudes toward special education as "...secondary to the family's hope of a cure for the disabled child" (p. 88). In Mexico, there is generally little reliance on institutionalized services and more dependence on the extended family as means of social support (Rivera, 1983). Shapiro & Tittle (1990), in their study of Mexican families with children with disabilities, warned that family members even take pride in their resistance to seek help from outsiders.

Regional cultural factors need to be also considered in understanding Mexicans' perception of disability. For instance, Sánchez & Cantn (1993) identified children with notable physical differences attending the schools in the state of Yucatan, and discovered a very high incidence of visual problems, among them strabismus, a condition well accepted in the area, since for the Mayan, the ethnic group in this region, this was a sign of beauty.

Despite these efforts to describe the meaning of disability in Mexico, there is a lack of sufficient information to draw reliable conclusions regarding the attitudes of Mexicans toward disability. This is a complex phenomenon and research has yielded rather scattered findings and failed to consider the wide diversity of the Mexican population.

Principles and policies

Special education practices in Mexico are better understood if one bears in mind the pedagogic and educational guidelines underlying Mexican special educational policies.

The federal government has allocated resources and promoted the consolidation of an institutional network of special education in Mexico based on the general educational guidelines established by the third article of the constitutional Act of 1917: Education provided through state institutions should strive to harmonically develop all faculties of the human being. In addition, educational practices ought to foster love and respect for the fatherland and the awareness of the need for international consolidation with independence and justice (p. 21; General Board of Special Education [DGEE], 1981).

The ministry of education, through the Board of Special Education, has stated the goals to be pursued in special education programs in Mexico as follows:

- To enable the individual with special needs to fulfill himself as an autonomous person facilitating his integration and participation in his social milieu, so he can enjoy a fulfilling life.
- To act in a preventive fashion in the community, promoting the maximum level of psycho educational development of the individual since his gestation and throughout his life.
- To implement additional programs to develop or compensate the handicaps

or limitations that affect the individual.

- To elaborate curricula that promote personal independence, communication, socialization and the ability to work and enjoy leisure time.
- To promote the acceptance of persons with special education the requirements of maintaining the principles of normalization and integration.

Special education guidelines in Mexico are framed within a humanistic view of educational and psychological attention and they account for the legal framework that has required the special education system to develop wide reaching programs for students with disabilities. Legal precepts included in various codes and regulations prescribe general educational guidelines, but the country still lacks specific legislation for persons with disabilities such as the Americans with Disabilities Act, in the US.

The three pillars of policy - making in special education in Mexico are: individualization, normalization, and integration.

Individualization refers to the idea that a particular psycho pedagogical profile should be developed for each pupil with special needs. Such a profile must serve a baseline of action, providing specific criteria for the child's development. Normalization refers to the promotion of the child's behavior within normal limits as far as possible. Integration refers to the tendency to incorporate students with mild disabilities into regular schools according to the following hierarchical model:

a) attention within the classroom with the aid of a special education teacher that acts as a supporting staff of the teacher and provides special strategies or additional techniques for the child;

b) attention in the regular classroom with additional assistance in an extra class;

c) formation of special groups within the regular school under the responsibility of a special education teacher. Integration is a concept similar to the term 'mainstreaming' recently in vogue in the US to connote the inclusion of children with disabilities in the regular class.

Severely handicapped cases or those with multiple disabilities, as well as children with mental retardation, are referred to special programs, residential facilities or hospitals. Thus, special education services are classified as complementary with respect to stimulation and support programs and essential in relation to special schools for severely disabled children.

Rehabilitation

There is still the extended belief in Mexico that medical rehabilitation equals social and psychological adjustment. However, groups of professionals have recently begun promoting a change of focus toward rehabilitation practices, emphasizing the value of prevention and early stimulation and attempting to equate the importance of psychological and social adjustment to that of medical rehabilitation. Generally speaking, there are centers specializing in the treatment of persons with perceptive problems, motor limitations, physical rehabilitation, and mental retardation. But, outside the medical staff, there is a lack of well prepared professionals. The number of social workers, psychologists, and educators specifically trained to deal with people with disabilities is scarce. Furthermore, there is not a recognized profession such as counseling, as exists in the US and some European countries.

The National Health system provides special attention to persons suffering disabling diseases or accidents and incorporates nearly 45 million Mexicans. Its programs include medical rehabilitation, job related accident insurance and other benefits. Unfortunately, the belief that

physical restoration equals psychological welfare and social adjustment still prevails. Psychological assessment, counseling and placement do not exist as alternatives for intervention. In general, in Mexico it is less costly for the State to assign a meager pension rather than finance a full rehabilitation placement program for the individual.

Current developments

Since the early 80's multidisciplinary centers for the diagnosis and attention of disabilities were opened across the country. These centers are gradually extending over the vast territory and are reaching rural and small communities. For example, in the Yucatan in the last 4 years, five new centers have been opened bringing the total to 8, in eight different regions of the state.

These centers have broadened their range of services to include newborn infants, preschool children and adults beyond school age range. For example, early stimulation centers, protected industries and employment training centers are opening throughout the country. More recently, programs in the federal special education system have been developed focusing on gifted children. This is a breakthrough since this fact is a recognition that special education services should not only serve the disabled. This is an important event in overcoming the deficiency model prevalent in special education in Mexico.

Unfortunately, there are still many limitations and restrictions in the special education and rehabilitation practices in Mexico. There are no reliable statistics about the number, location and types of disabilities also there is little research on special education issues and problems and there is a troubling lack of highly qualified professionals working in this area. In addition, beyond medical restoration, there is little concern for the person's social and psychological well-being.

The special education system has suffered the same lack of budget and motivation, as has the rest of the educational system due to both the level of economic development of the country and the magnitude of the educational system. Similarly, rehabilitation practices have failed to incorporate other disciplines in the management of persons suffering a disability.

The future

The perspective of a free trade agreement in North America must have an impact on both special education and rehabilitation practices. Intense economic exchange will convey a transmission of values that are expected to provide greater awareness of competition at all levels. This event will require modernization and implementation of current educational practices in Mexico, including special educational practices due to the importance of providing individual support for those with special education needs. Similarly, there is a hope for increased awareness of the rights and contributions of persons with disabilities when Mexicans observe the efforts of the American people to facilitate access to media, public transportation and education.

Caution however should be exercised in order to carry out only those changes that fit the needs and the nature of the Mexican population and that fully consider the professional and institutional infrastructure available, as well as the value system and resources of the Mexican society. There is a need to preserve the extended family structure, which provides an excellent support network for the individual and diminishes the need for institutional services. Attention should be paid to cooperative attitudes charac-

teristic of the Mexican society that facilitate the acceptance of persons with disabilities.

Moving towards the twenty first century, a second important trend is the incorporation of technology into special education and rehabilitation practices to create better systems for screening, diagnosis and reference and higher standards of preparation for professionals in all areas of the special education service network.

Finally, an effort should be made in order to prepare professionals able to resolve the many problems existing in rehabilitation and special education settings. More scientific research ought to be developed in order to develop a reliable description of the needs and opportunities for people with disabilities that foster awareness on the rights and opportunities given to the student with special needs.

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People First

A Guide To Communication About Disabilities

Sticks and Stones
Can Break My Bones
But Names Can Really Hurt Me

Language is powerful! It reflects, reinforces, and shapes our perceptions of people. Words which reflect positive attitudes and awareness help develop positive communications.

Words about disability have been strongly affected by legal medical, and political terms.

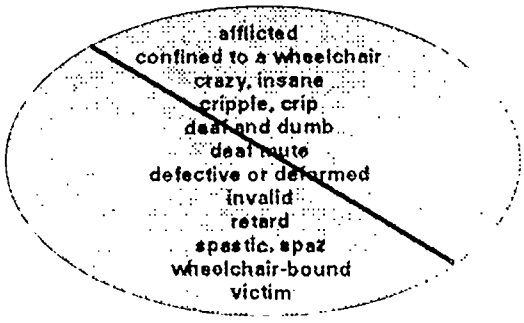
Consequently, our daily language is filled with technical terms which often do not convey our intended social message.

The suggestions found below are provided to improve language usage. Most suggestions are just common sense, but others are a matter of becoming aware of appropriate, current terminology.

Using the right words can make a dramatic difference!

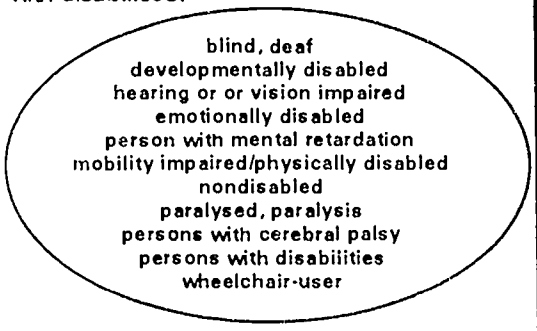
Inaccurate Terms and Expressions

These words and expressions have strong negative, derogatory connotations. Avoid using them and discourage use by others:



Preferred Terms and Expressions

These words and expressions are preferred and reflect a positive attitude toward people with disabilities.



Incorporate these words into our language in a way that expresses the dignity of the person.

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Promoting Postsecondary Education for High School-Aged Youth with Disabilities: Influencing Teacher Attitudes, Developing Teacher Knowledge

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Abstract: Youth with disabilities are enrolling in postsecondary education at rates much lower than their nondisabled peers. To address this issue a one day conference was designed around the central themes of student empowerment and information dissemination. Results of the findings of these conference questionnaires are reported and ramifications of these findings are discussed.

Introduction

In a study of 8000 students with disabilities, Wagner (1989) reported fewer than 15 percent of school exiters who were out of school for more than one year were reported by their parents to have participated in postsecondary education. This compares to a participation rate of between 50 and 56 percent for students without disabilities. Young adults with disabilities are significantly underrepresented in postsecondary education and these figures may well contribute to the poor after high school quality of life for students with disabilities. This is of some concern since postsecondary education is related to opportunity. For example, significant relationships have been found between level of educational attainment, occupational status, and employment of an individual (Biller, 1987; Jencks, Crouse, & Muesser, 1983).

Why do so few persons with disabilities choose to participate in postsecondary education? In a review of career development literature and research regarding persons with learning disabilities, Biller (1985) found adolescents with learning disabilities to be less career mature. These adolescents were also found to exhibit an external locus of control, exhibit low self esteem, be poor planners, have difficulty in obtaining information, be weak in career decidedness and have a poor reality orientation. These characteristics may impact the students ability to participate in postsecondary education as well as their capacity to plan for their participation in postsecondary education.

Consistent with these findings, Miller, Corbey, and Asher (1994) suggested several possible explanations which may limit students with disabilities consideration of participation in postsecondary education. First, students with disabilities may have a lack of knowledge regarding postsecondary education programs and opportunities. Second, students may not have a knowledge of possible academic accommodations available in post-

secondary education. Third, students may lack practice in using the kinds of accommodations available in postsecondary education while in high school. Fourth, students may not have the skills to request the accommodations they need to be successful in postsecondary education. Fifth, students may take a curriculum track in high school that does not prepare them for attendance at different types of postsecondary education institutions. Ness (1989) also suggested that many students with disabilities may assume that they are not capable of continuing their education beyond high school.

To address these issues, special education teachers must have the knowledge and skills to address curriculum needs of students who desire to attend postsecondary education. These curriculum needs may include: (a) teaching students to discuss their own educational strengths and limitations, (b) teaching students their rights and responsibilities under the law in a postsecondary education setting, (c) teaching students to practice the use of educational accommodation strategies during high school to prepare for their use in the postsecondary environment. In addition, it is imperative that special education teachers believe in their students' capacity to participate and be successful in postsecondary education. Harris, Rosenthal, and Snodgrass (1986) suggested that most researchers now acknowledge that teachers' expectations for their students' performance can influence the students' subsequent academic performance. In a review of the literature on self-fulfilling prophecy, Brophy (1983) stated ".....the existence of a teacher expectation for a particular student's performance will move in the direction expected, and not in the opposite direction" (p. 633). Brophy continues by suggesting that the effects of teacher expectations are incremental and may only account for 5-10 percent of the difference in student performance. However, this is does not imply that the topic is unimportant. "Even a 5 percent difference in educational outcomes is an important difference, the more so as it is compounded across school years" (p. 635). We, as researchers, would hypothesize that teacher expectancy (for students with disabilities to attend postsecondary education) is a concern potentially exacerbated by disability label and impaired academic ability. For example, Jenks et al. (1979) found adolescents with greater academic ability are selectively encouraged to have higher aspirations and to attend school longer. If this is true, then students with less, or impaired academic ability may be selectively discouraged to attend school longer. The purpose of this study was to measure the effects of participation in a state-wide conference regarding young adults with disabilities in postsecondary education on the educational personnel accompanying student participants. What changes in knowledge and attitudes occurred in special education teachers and support staff as a result of participation in a conference where the focus was the empowerment of high school students with disabilities to participate in postsecondary education?

The **Rocketing Into the Future** conference was a statewide conference designed as a tool to begin to address the issue of participation of students with disabilities in higher education. It was held on the Mankato State University campus in Mankato, Minnesota during the spring of 1993 and was sponsored by the university and the Minnesota Department of Education, Interagency Office on Transition. The conference was designed to bring together: (a) students with disabilities who had been successful in postsecondary education; (b) representatives of Minnesota Private Colleges, the University of Minnesota, Community Colleges, the State Universities of Minnesota, and Technical Colleges; and, (c) secondary-age students with disabilities who wanted

to find out more about their participation in postsecondary education. The conference goals included: (a) enabling and empowering students to plan to participate in postsecondary education; (b) engaging students in frank discussions of the skills they would need to be successful in postsecondary education; and, c) providing information regarding postsecondary education supports and options.

The conference was divided into four major components including a keynote speaker, break out sessions facilitated by college-aged students with disabilities, lunch and tours of the university campus for conference participants, and break out sessions with representatives of various postsecondary education institutions including sessions for educators concerning the development of effective transition plans. The keynote speaker was a person with a disability who focused on issues of self-determination and strategies to successfully address one's own disability.

The second component of the conference consisted of six break-out sessions facilitated by college-age students with disabilities. These young men and women provided examples of students with disabilities successfully participating in postsecondary education. They also provided role models for secondary students to envision themselves in postsecondary education. Group discussions by these presenters focused on three key issues of self-determination, empowerment and information dissemination: (a) How do you get admitted to and stay in the college of your choice? (b) What skills do you really need to get in high school to succeed in postsecondary education? and, (c) What kinds of supports and challenges should students with disabilities expect at college? The six student speakers represented a broad array of physical disabilities and learning disabilities. They also represented participation at four-year colleges and universities, community colleges, and technical colleges. Each of these six presenters was paid an honorarium to present at the conference.

The third component of the day was lunch and tours of the university campus. Time was provided for conference participants to explore the campus and interact with college-age students during an unstructured lunch time. The Student Council for Exceptional Children (ch. 580), an organization of college students training to become teachers of students with disabilities, provided tours of the campus and were available to accompany high school students to lunch and answer questions regarding university life.

During the final component of the day, conference participants had the opportunity to attend three different 45 minute discussions regarding the type of educational institutions in which they were most interested. They also could choose to examine community resources (e. g. Social Security, Rehabilitation Services) which could provide the supports needed to participate in postsecondary education. Educators were offered the opportunity to attend an additional session on development of transition plans as a portion of the Individual Education Plan (IEP).

As a part of the information sent to schools prior to the conference, educators were asked to encourage their student participants to bring specific questions to ask postsecondary education personnel regarding their institutions and support services for persons with disabilities. The conference program also included sample questions to ask postsecondary providers such as: (a) What kinds of courses does this system offer? (b) What support services can you expect on campus? (c) How do you apply to participate? and (d) Who do you see about your disability to get the services you deserve?

Method

Procedures

Two thousand copies of the registration brochure discussing the conference were sent to secondary special educators, transition specialists and directors of special education throughout the state of Minnesota. Conference registration was limited to the first 150 student participants plus their teachers and other support staff. Participation from each high school was limited to a maximum of 10 students plus accompanying educators to insure an opportunity for attendance from students representing many different communities. Pre and post conference questionnaires were developed and administered to secondary students participating in the conference. In addition, a conference questionnaire was developed and administered to educators accompanying student participants. The purpose of the educator questionnaire was to explore: (a) the attitudes of educators regarding participation of their students with disabilities in postsecondary education; (b) the knowledge of accommodation strategies to assist students to prepare for participation in postsecondary education; and, (c) the knowledge of educators regarding support services available for students with disabilities in postsecondary education.

The instrument was divided into three sections. Section one included ten statements of empowerment regarding the attitudes and knowledge of educators to prepare students with disabilities for postsecondary education. Educators were asked to read each of the ten statements and circle the response that best represented their feelings regarding the statement. Educators were provided a Likert type scale from 1 strongly disagree (with the statement), 2 disagree, 3 neutral, 4 agree, and 5 strongly agree (with the statement). Section two asked participating educators to identify the current special education licensure area in which they were teaching. The final section of the questionnaire asked participating educators to complete two open ended statements regarding what they liked about the conference format and suggestions for improving the conference.

Participants

One hundred fifty six students and 44 teachers and support personnel attended the conference. Of these 44 educator participants, 31 (70.45%) returned the conference questionnaire. Of the 31 educators returning the conference questionnaire, 26 (83.9%) were secondary special education classroom teachers, 3 (9.7%) were work experience coordinators, 1 (3.2%) was a school counselor, and 1 (3.2%) was employed in the capacity of paraprofessional. These educators represented 26 rural and urban high schools from throughout Minnesota. Educators and students from 12 (46.2%) of the schools represented at the conference were from communities of less than 2,500 population.

Limitations

Three limitations must be addressed when considering this study. First, this study was based on a single day conference. While the results suggest positive changes in knowledge and attitudes of educators regarding participation of their students with disabilities in postsecondary education, the longer term effects of conference participation are unknown. Second, the survey instrument used is not an assessment tool but rather it is an evaluation tool to measure the effects of the one day conference. No information regarding the reliability or validity of the survey instrument is available. However, the instrument would appear to have good face validity in that it addresses many of the underlying assumptions and concerns suggested by theorist and researchers regarding preparation of students in issues of self-

determination (e.g. Martin, Oliphint, & Weisenstein, 1994; Miller et al., 1994; Valenti, 1989) and of participation in postsecondary education (e. g. Aune & Ness, 1991; Miller, Snider, & Rzonca, 1990; Dalke & Schmidt, 1987). Third, due to limited sample size and to the exploratory nature of the conference, the decision was made to present the data descriptively.

Results

Table 1 presents the educator responses to the ten statements of empowerment related to success in postsecondary education. For each statement, educators were asked to circle the number on a five point Likert type scale that best represented their feelings toward the statement from 1 = strongly disagree to 5 = strongly agree. Each educator could also choose to circle "NA" if they believed the statement did not apply to their educational situation. (See p. 74)

Statements one and two in Table 1 are affirmative statements relating to the attitudes of educators regarding the participation of their students with disabilities in postsecondary education. Statement one asked educators if their students could be successful in postsecondary education. Prior to the conference eight (25.8%) educators strongly agreed that their students could be successful in postsecondary education and training programs. After the conference, 15 (48.4%) educators, nearly twice the number, strongly agreed with this attitudinal statement. The importance of including transition related goals for students regarding postsecondary education and training as a part of the Individual Education Plan was addressed in statement two. Prior to the conference, 19 (61.3%) of educators strongly agreed with this statement regarding the importance of inclusion of goals for participation in postsecondary education in the IEP. Following the conference, 26 (83.9%) strongly agreed with this attitudinal statement.

Statements three and four in Table 1 are statements regarding the educator's knowledge of skills that their students would need in order to reach postsecondary education and training goals (statement three), and the educator's knowledge of support services available in postsecondary education and training programs for students with disabilities (statement four). Prior to the one day conference, six of the 31 (19.4%) educators strongly agreed that they had knowledge of the skills needed by their students to attain their postsecondary education goals. Following the conference, 14 (45.2%) educators, more than twice as many, strongly agreed with this attitudinal statement regarding their level of knowledge. Prior to the conference, eight of 31 (25.8%) educators strongly agreed that they were aware of support services available for students with disabilities in postsecondary settings. Following the conference, 19 (62.3%) strongly agreed with this statement.

Statement five in Table 1 was an affirmative statement regarding the importance of teaching students to advocate for supports and accommodations that they would need to be successful in postsecondary education. Prior to the conference, 15 (48.4%) educators strongly agreed with the importance of this statement. Following the one day conference, 26 (83.9%) educators strongly agreed with the importance of this statement.

Statement six in Table 1 asked educators whether having a disability would inhibit their students from reaching their postsecondary goals. Prior to the conference, six (19.4%) educators responded to this statement with a neutral rating of 3 on the Likert scale. Following the one day conference, the number of educators that rated this statement as neutral was reduced to two (6.5%) educators. The number of educators strongly agreeing that

Table 1. Educator responses to statements of empowerment related to success in postsecondary education

1	**My students can be successful in postsecondary education and training programs**						
		1			8	14	8
	Prior to the workshop	NA	1	2	3	4	5
	percentage	**3.2**			**25.8**	**45.2**	**25.8**
					2	14	15
	After the workshop	NA	1	2	3	4	5
	percentage				6.5	45.2	48.4
2	**It is important that my students have postsecondary education and training goals on their Individual Education Plans**						
		1				11	19
	Prior to the workshop	NA	1	2	3	4	5
	percentage	3.2				35.5	61.3
		2				3	26
	After the workshop	NA	1	2	3	4	5
	percentage	**6.5**				**9.7**	**83.9**
3	**I know what skills my students need in order to reach their postsecondary education and training goals**						
		1		1	8	1	6
	Prior to the workshop	NA	1	2	3	4	5
	percentage	**3.2**		**3.2**	**25.8**	**48.4**	**19.4**
	After the workshop	NA	1	2	3	4	5
	percentage				**3.2**	**51.6**	**45.2**
4	**I know what support services are available in postsecondary education and training for students with disabilities**						
		1		1	9	12	8
	Prior to the workshop	NA	1	2	3	4	5
	percentage	**3.2**		**3.2**	**29**	**38.7**	**25.8**
						12	19
	After the workshop	NA	1	2	3	4	5
	percentage					**38.7**	**61.3**

(Table 1 continues)

(table 1 continued)

5 **It is important that I teach my students how to advocate for the supports and accommodations that they need to be successful in postsecondary education**

			1	4	11	15
Prior to the workshop	NA	1	2	3	4	5
percentage			**3.2**	**12.9**	**35.5**	**48.4**
	1				4	26
After the workshop	NA	1	2	3	4	5
percentage	**3.2**				**12.9**	**83.9**

6 **Having a disability will inhibit my students from reaching their postsecondary goals**

	2	4	10	6	8	1
Prior to the workshop	NA	1	2	3	4	5
percentage	**6.5**	**12.9**	**32.3**	**19.4**	**25.8**	**3.2**
	3	7	7	2	9	3
After the workshop	NA	1	2	3	4	5
percentage	**9.7**	**22.6**	**22.6**	**6.5**	**29.0**	**9.7**

7 **I am more likely to collaborate with other professionals (school guidance counselors, division of Rehabilitation Counselors, postsecondary support service providers) to plan for and prepare my students for postsecondary education based on my participation in this conference**

			3	4	8	16
	NA	1	2	3	4	5
Percentage			**9.7**	**12.9**	**25.8**	**51.6**

8 **My students benefited from this conference**

	1			2	10	18
	NA	1	2	3	4	5
Percentage	**3.2**			**6.5**	**32.3**	**58.0**

9 **Parcipation in this conference has increased the likelihood that my students will attend postsecondary education**

	1			5	18	7
	NA	1	2	3	4	5
Percentage	**3.2**			**16.1**	**58.1**	**22.6**

10 **I learned new skills that will help me prepare my students for postsecondary education at this conference**

			1	3	19	8
	NA	1	2	3	4	5
			3.2	**9.7**	**61.3**	**25.8**

their students' disabilities would inhibit their capacity to attain their postsecondary goals increase from one (3.5%) educator to three (9.7%) educators. The number of educators that strongly disagreed with this statement that disability would inhibit their students from attaining their postsecondary education goals also increased from four (12.9%) educators to seven (22.6%) educators.

As a result of participation in the conference, 24 of 31 (77.4%) educators agreed or strongly agreed that they were more likely to collaborate with other professionals to plan for and prepare their students for postsecondary education (statement seven). Twenty-eight of 31 (90.3%) educators agreed or strongly agreed that their students benefited thorough participation in this conference (statement eight). Twenty-five of 31 (80.6%) participating educators agreed or strongly agreed that their students were more likely to participate in postsecondary education as a result of having participated in the conference (statement nine). Finally, 27 of 31 (87.1%) participating educators agreed or strongly agreed that they learned new skills that would help them prepare students for postsecondary education thorough participation in the conference (statement ten).

Discussion

After participating in the conference, educators perceptions regarding the participation of their students in postsecondary education changed incrementally. We believe these incremental changes to be of much importance in the education and training of students with disabilities. Students with disabilities need special education teachers who truly believe that disability label and impaired academic ability does not necessarily eliminate them from participation in postsecondary education. Students with disabilities need teachers who are committed to providing a vision of the future that includes the opportunity to participate in postsecondary education as an important option in transition planning. For this vision to occur, educators must have the knowledge, attitudes, and skills to prepare students starting early in the public school experience.

After participation in the **Rocketing Into the Future** conference, educators were more likely to perceive their students as capable of being successful in postsecondary education and training. Educators were more likely to perceive the importance of including postsecondary education as a portion of a student's IEP. Educators increased in their knowledge of the skills students will need to be successful in postsecondary education. Educators became more aware of the support services available to students in postsecondary education settings. Educators increased in their likelihood to work collaboratively with other professionals to prepare students for postsecondary education settings. These changes are informational (familiarity with accommodation strategies), and attitudinal (the perception that their students can be successful in postsecondary education settings).

One of the interesting findings of the educator questionnaire was the reduction in ambiguity of educators regarding the potential participation of their students in postsecondary education. As a result of their participation in the conference, educators were less likely to be neutral (3) when asked if the disability of their students would inhibit them from attending postsecondary education. After attending the conference, some educators perceived the disability of their students would be more of an inhibitor, others perceived the disability to be less of an inhibitor. Both sets of educators could most assuredly be correct. The accuracy of information regarding a specific student's strengths and limitations must match the requirements of specific post-

secondary educational institutions. Therefore, realistic appraisals of one's self and the requirements of the institution are needed. Accurate information is empowering in decision making for students and educators. It is imperative when deciding the course curricula to be completed in high school for future participation in postsecondary education settings. This conference provided both student participants and educators a realistic view of the opportunities and challenges of attending college. Participation in education after high school is challenging for all youth, and perhaps even more challenging for students with disabilities (Miller et al., 1994).

Too few students with disabilities complete high school and attend postsecondary education. This conference format combined disability, success, empowerment, and information dissemination as components to assist students to learn to advocate for themselves in preparation for participation in postsecondary education. A second goal of the conference was to assist educators to learn the knowledge and develop the attitudes to assist students in attaining their postsecondary education goals. Mankato State University and the Minnesota Department of Education, Interagency Office on Transition are working collaboratively to expand this conference into a yearly endeavor. It is our hope to assist students with disabilities and educators to better address planning for near and distant futures. For many more students with disabilities, we hope this planning will include involvement in postsecondary education.

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Characteristics of Services Provided by Two-Year Colleges That Serve Students with Learning or Cognitive Disabilities in Highly Effective Ways

John Gugerty

Rationale for Serving Individuals With Disabilities in Two-Year Colleges

A frequent, though most often unstated, question on the part of many college faculty, administrators, and governing board members is "why should we make a special effort to serve individuals with learning disabilities or persons with cognitive disabilities in the regular mainstream college environment?" The most appropriate response to this question is twofold. The first is to remind educators that individuals with learning or cognitive disabilities:

- have real disabilities, even though in many instances they are not obvious nor visible;
- can succeed in their programs of choice, given hard work on their part and specialized instructional support and other assistance from staff; and
- with appropriate, timely, and sufficiently intense support, will become productive, tax-paying members of the work force.

The second element of this response is to advocate the importance of three imperatives supporting the need and desirability of this effort. These imperatives are a) moral, b) legal, and c) fiscal. In terms of the moral imperative, each individual has the moral right to receive an equitable and realistic opportunity to learn skills needed to become occupationally proficient and thus economically self sufficient. Mission statements and vision statements supporting this right are not sufficient. They must be embodied in policies, procedures, and staffing patterns that support the implementation of that aspect of the school's mission.

The legal imperative stems from federal and state affirmative action/nondiscrimination statutes such as section 504 of the Rehabilitation Act of 1973 as amended, the Americans With Disabilities Act, and applicable state and federal court decisions. These mandate not only physical accessibility to programs and services offered by or through a school, but also equitable instructional accessibility.

The fiscal imperative flows from the truism that, as adults, individuals will

either support themselves financially, or be supported by others. The extremely high unemployment and underemployment rates of individuals with disabilities (Louis Harris and Associates, 1994) would seem to indicate that many of these individuals require the support of others in order to assume fully the adult roles deemed desirable by the dominant American culture. In addition, systematic transition services that facilitate enrollment, and effective academic and personal support after enrollment, enhance both enrollment and completion rates of individuals with disabilities. In addition, structured assistance to obtain employment or enroll in higher education after completing a program enhances the likelihood that post-enrollment follow-up studies will generate positive outcomes for both the school and the programs that individuals with disabilities completed. Positive enrollment, retention, completion, and post program success data generate additional Full Time Equivalent (FTE) enrollment numbers for the college and provide evidence of the program's quality, thus enhancing its survival, growth, and development.

To meet the learning needs of students with learning or cognitive disabilities, and thus address these three imperatives, educators need a) a knowledge of effective ways to serve individuals with learning or other disabilities in post secondary environments; b) familiarity with legislative and judicial rulings applicable to educating individuals with disabilities in post secondary settings; and c) the will to act on that knowledge by initiating, sustaining, and improving programs and services that make post secondary education truly accessible to students with disabilities.

In an effort to supply a portion of the requisite knowledge, staff at the Center on Education and Work (CEW) applied for and received funding for three years from the U.S. Department of Education, Office of Special Education and Rehabilitative Services, to find, analyze, select, describe and disseminate information about exemplary approaches used by two-year colleges to serve students with learning or cognitive disabilities in highly effective ways.

To address the project's goals, CEW sponsored a national competition among two-year colleges to find those implementing prospective exemplary approaches. National and state post secondary leaders, secondary administrators, and representatives from organizations that serve individuals with disabilities initially received a brochure asking them to nominate two-year colleges that in their judgment served students with learning or cognitive disabilities in an exemplary fashion. The sixty-nine nominees received a synopsis of the project and a detailed questionnaire to complete and return for further consideration. Nineteen did so. On January 23 and 24, 1991, a national panel of experts reviewed and rated these detailed responses. The panelists advanced seven nominees to the final step in the selection processes — a site visit. Two CEW staff or review panel members visited each site in order to: a) determine whether or not the programs/services described in the questionnaire responses in fact existed; and b) discover any additional techniques or approaches used to provide these services that may have been overlooked by those responding to the questionnaire. To accomplish these goals, evaluators reviewed documents and data; observed classes, support groups, and other instructional and support services provided; and interviewed administrators, instructors, support staff, students, employers, and human service representatives with these colleges. The team members concluded that all seven schools did, in fact, provide exemplary services to students with learning or cognitive disabilities. CEW staff completed the project by profiling each site in detail, disseminating this information through

six national conferences, and documenting these findings in the publication entitled Seven Exemplary Approaches Used by Community, Technical and Junior Colleges to Educate Students With Learning or Cognitive Disabilities (Gugerty, J.J., Tindall, L.W., Gavin, M.K., & Fago, B.G., 1993).

Findings

In the Seven Exemplary Approaches..., CEW project staff, in conjunction with staff from each college profiled, described the methods used by these institutions to serve students with learning or cognitive disabilities in highly effective ways. The publication provides working models to educators who wish to increase the enrollment, retention, and transitions to employment or higher education of individuals with learning or cognitive disabilities.

The description of each exemplary approach included in this handbook follows a set format in order to help the reader understand and compare each institution's organization and delivery of services for individuals with learning or cognitive disabilities. Each description includes:

- goals and key features;
- demographic/geographic information;
- project description;
- financial data;
- staffing pattern;
- students served;
- coordination activities;
- program outcomes;
- figures and exhibits illustrating specific examples to demonstrate how each school designs and implements its services for individuals with learning or cognitive disabilities.

The hand book also describes program components unique to each site. The following highlights illustrate unique aspects of the methods individual schools use to serve students with learning or cognitive disabilities successfully.

Project SERVE, Chippewa Valley Technical College (CVTC), Eau Claire, WI

Project SERVE staff have organized a thorough and extensive transition for high school students who wish to enroll in CVTC. They provide career exploration opportunities for students, as well as helping them process administrative red tape. All special needs students are completely mainstreamed. This total inclusion approach is feasible and effective because the college maximizes staff resources with technology (i.e., computers, audio-visual materials, and scanners). SERVE staff provide in-class support, that is, they help students within actual vocational classes as needed. In addition, they minimize the stigma associated with visible evidence of a disability by simply introducing the staff person providing support as another instructor who can help any student who asks for it. (This tactic meets federal regulations regarding grants because it frees the vocational instructor to provide extra help to students with special needs.)

Project SERVE staff members have learned that personal problems interfere with learning. Thus, they help their students address living arrangements, finances, transportation, or other issues needed. Also, job placement and post employment support occur through Projects With Industry at the University of Wisconsin-Stout.

Student Support Services at Bemidji Technical College, Bemidji, MN

Bemidji Technical College (BTC) operates two separate support approaches under the same administrative structure. One approach, the Occupational Skills Program, is a pull-out program for students whose chances of success would be minimal even with extensive support in a

mainstreamed program. The other, entitled the Support Services Program, provides services to mainstreamed students using a case manager concept as its centerpiece.

The Occupational Skills Program provides community based occupational skills training and is a rare example of community college service to adults with cognitive disabilities. It individualizes each program according to the student's interests. The program includes a formal course in self-advocacy. BTC does not screen people out from its mainstream offerings. If a student in this program demonstrates sufficient effort and skill acquisition and wants to enroll in a mainstream option, he or she will receive the support to do so. Ideology does not prevent staff from meeting their students' needs in a context most conducive to their success.

The Support Services Program develops and implements Individual Technical Education Plans (ITEPs) within the case manager framework. The ITEP, similar to the secondary level's IEP but not mandated legally, becomes the vehicle through which services are delivered. For example, at enrollment time, all students take an entry exam (an adult basic education test). Students who score below a set cut-off receive individual counseling from a support services staff member (who then becomes their co-advisor/case manager). An ITEP is then designed for each individual student, who then ecome eligible for support services if he or she desires them. Accommodations needed, such as those for testing or exam proctoring, are set up right away before the student falls behind. Self-advocacy components are woven into the ITEP for students in the mainstream. A detailed Student Support Services Policy Manual for staff clearly outlines program services, courses developed within the program, and how to deliver various curriculum modifications such as tutoring, advocacy, and placement services.

Administratively, BTC demonstrates a highly effective approach to proposal development. The special needs supervisor leads a five member team which applies for Carl D. Perkins Vocational and Applied Technology Education Act funds. She is a key in its preparation and has great influence on what is included in the proposal and what is subsequently funded.

Southwest Virginia Center for the Learning Disabled, New River Community College, Dublin, VA

The Southwest Virginia Center for the Learning Disabled's Learning Achievement Program (LEAP) staff were instrumental in establishing the Montgomery County, Virginia, Transition Council. This group has set up well organized and extensive processes for transition to its member schools, including New River Community College (NRCC). Its stated goal is for everyone who needs transition services to get them. In particular, a Summer Prep Program has helped prepare students planning to enroll in NRCC. The center maintains strong ongoing relationships with neighboring universities, exemplified by events such as joint satellite teleconferences and internships for teacher trainees.

Individual components of the Center for the Learning Disabled are rare, if not unique, at the post secondary level. For example, the note taker/tutor training services provided for students with learning disabilities operates through the same department that runs these services for all students, but provides priority services to students with learning disabilities. As part of a speaker's bureau organized by LEAP staff, current students with learning disabilities develop their confidence and public speaking skills by engaging in three types of public service activities. First, they reach out to high school students by explaining the difference between high school and college, what happens when a student fails

to put in sufficient effort, and the benefits of enrolling at New River. This strategy not only increases high school students' awareness of the program, but gives the speaker poise and confidence. Second, they make presentations to faculty, support personnel, and administrators of NRCC. By speaking at staff development programs, students with learning disabilities help staff understand the problems they face and the value of alternative approaches to teaching and learning. Third, these students also speak to community groups, such as the Chamber of Commerce, Kiwanis, and others.

To provide models for new students, LEAP staff videotape students with learning disabilities while they use various learning strategies. Post school follow-up evaluates former students' disabilities experiences with support services — it documents whether or not these services were available and used.

Northeast Metro Learning Assistance/Services, Northeast Metro Technical College, White Bear Lake, MN

As in Project SERVE, all students with special needs are fully integrated. Northeast Metro can include students with disabilities into its occupational preparation and other programs with particular ease because of the competency-based, modular instructional approach used with all students. For example, the faculty has developed three alternative written criterion exams for each task in each module. This technique makes testing accommodations feasible without compromising the exam's validity.

Accommodation Teams exemplify the cooperation existing between regular faculty and support staff. These teams consist of the student with learning disabilities, support staff and his or her regular education instructors. Students with learning disabilities receive support services through Learning Assistance Teams.

Northeast Metro also offers a comprehensive long-range staff development program. This program prepares administrators and instructors to work with students with special needs in the mainstream. Participants can earn a master's degree in vocational special needs education from the University of Minnesota if they desire. In addition, the strategic plan and mission statement thoroughly and effectively address issues faced by special needs students.

Transition Program, Middlesex Community College, Bedford, MA

The Transition Program is a two year certificate program for people who are highly unlikely to succeed in the mainstream, even with extensive support. The program prepares them to live independently, become employed, and succeed in the work place. It develops the whole person. The Transition Program focuses on clerical and business support skills. The Transition Program director also heads support services for students with learning disabilities in the mainstream. It is not a screen out program, but features a highly competitive application process in order to be enrolled.

Students do not receive college credit for passing courses in the Transition Program, though the school receives state aid based on the FTE enrollment of participants. Courses cover skills that students need to function independently, for example, skills in life environment or home maintenance as well as skills needed to work in clerical or business support positions. Students work at internships two out of five days per week. Once students complete the program, they participate in a support group while they look for work. Those who have secured employment receive the support they need to keep their jobs, and can take part in a monthly post employment support group.

Basic Food Service Training Program, Contra Costa Community College, San Pablo, CA

The Basic Food Service Training (BFST) Program is offered within the regular culinary arts courses. BFST students work with students enrolled in the Culinary Arts Program in the same kitchens and restaurants. Job coaches are an integral part of the program and paid high enough wages to minimize job turnover. The program targets the "better restaurants" which pay higher wages as future employment options for its students rather than fast food outlets. This allows graduates to earn a living wage. The program also connects graduates with California's Workability III program so they can receive job placement assistance and post employment support.

Regional Center for College Students with Learning Disabilities, Fairleigh Dickinson University, Teaneck, NJ

The Regional Center for College Students with Learning Disabilities at Fairleigh Dickinson University (FDU) serves students in both the associate degree programs offered through Edward Williams College (part of FDU) and the baccalaureate degree programs. The Regional Center for College Students with Learning Disabilities maintains a high support staff to student ratio. All support staff have extensive special education backgrounds and experience. Students must sign a contract which spells out their commitment to attendance, support session participation, and other components of support services offered. Freshman and sophomores with learning disabilities who enroll in FDU's support services program are required to attend study and tutorial sessions with support staff. For instance, freshman must devote one hour per course each week to studying and support services; sophomores must spend one hour per three courses each week with support staff. Students who do not comply risk dismissal.

What Has Been Learned

Factors in the Success of These Approaches

In reviewing data and documents, observing instruction and support services, and interviewing staff, students, administrators and representatives of community based agencies associated with each of the seven approaches selected through this project, CEW staff noticed that all schools manifested four factors even though many details of their organizational structure and service delivery approaches varied markedly. These common factors were as follows:

1. Administrators, faculty, and support staff display in deed as well as in word an attitude best expressed as: "Our mission is to help all our students find a path to individual success."

2. Comprehensive, well designed strategies are developed and used to implement that mission. These strategies are also carried out with sufficient intensity to achieve the desired outcomes for individuals with learning or cognitive disabilities: enrollment, retention, graduation, and transition to employment or higher education.

3. Staff demonstrate very high levels of skill, both in their professional specialties and in their interpersonal and "political" skills; and their efforts and judgements receive consistent and timely administrative support.

4. Students with learning or cognitive disabilities enroll, progress through their chosen programs, graduate, and make smooth transitions to work or further education.

These seven institutions were not blessed by once-in-a-lifetime circumstances that allowed them to avoid barriers to effective service development and delivery. Rather, factors one through three were developed assiduously by key

leaders and decision makers, resulting in the emergence of the fourth factor.

Elements Common to Each Program

A more detailed breakdown of common elements across all seven programs yields the following factors associated with a high degree of effectiveness:

1. Staff. Key staff demonstrated not only high levels of interpersonal and technical skills, they possessed an array of formal credentials and a rich experiential background. Equally important, they demonstrated a strong, genuine concern and sense of caring for others, a sense of humor, and a high level of frustration tolerance.

2. Administrative support. The most highly skilled, caring staff in the world eventually burn out in the absence of administrative support. In order for these exemplary approaches to develop and sustain themselves, administrative involvement and support are crucial.

3. Organizational structure. The service delivery approaches used by these institutions reflect extensive planning and attention to detail. Loose ends are not tolerated.

4. A focus on "customer service." Student success, not organizational convenience is the driving force when services are developed or revised.

5. A focus on quality. Staff demand high-level performance from themselves, their peers, and the students.

6. Persistence and a problem solving orientation. Staff do not give up in the face of obstacles and setbacks. They persist, refining instructional or support methods, adjusting procedures or introducing alternative approaches to address and solve issues on the student level, the organizational level, and the community level.

7. Flexibility and adaptability. Both individual staff and their organizations demonstrate this characteristic. Inevitable "nasty surprises" are merely speed bumps on the road to attaining their goals.

8. Team effort. The most highly qualified individuals do not have the time, energy, or skill to address all of the complex, multifaceted needs of students they serve. In all seven of these exemplary approaches, staff involved as many "players" as possible, not least of whom were the students themselves, their families (if the families were still involved strongly in the students' lives), secondary school personnel, adult service agency staff, employers, and of course other staff from the college.

9. A highly refined understanding of organizational politics within their own institutions and among cooperating agencies and businesses. The staff of these exemplary efforts display a keen grasp of "organizational politics" and its role in developing and improving services to students with disabilities.

10. Valuing small successes. Staff realize that each student's progress must be measured against his or her pre-enrollment status. Some make great strides, while others absorb a great deal of staff time and energy yet make minimal progress as measured by the standards of the larger society. The staff and organizational focus on the individual's needs and goals allow participants to put all successes, both great and "small," in proper perspective.

Barriers

When discussing how two-year colleges should design and implement approaches that effectively recruit, enroll, retain, graduate, and transition individuals with disabilities, typical barriers include attitudinal and organiza-

tional issues.

Attitudinal barriers include the "add-on/afterthought" syndrome, the "my student/your student" syndrome, the "we don't have any money" syndrome, and fatalism. The "add-on/afterthought" syndrome is displayed by decision makers who totally forget to consider individuals with disabilities until reminded by others. Typically, they respond with an embarrassed "oops I got caught" expression, and scurry anxiously to patch together an add-on component designed as much to placate those raising the issue as it is to address problems faced by students with disabilities.

The "my student/your student" syndrome manifests itself in regular faculty, support staff or administrators who attribute (or accept) total responsibility for the performance of students with disabilities, as well as total responsibility for instructing them. If these students are "mine" I must do everything for them. If they are "yours" I don't have to do anything other than refer them to you, and get out of your way.

Most readers are probably surprised to find the "we don't have any money" syndrome" listed under "attitudinal" instead of "organizational" barriers. In reality, though, "lack of money" is always an attitudinal issue, unless the entire organization's budget is zeroed out. If a two-year college has an annual budget of $92 million, is it ludicrous to claim that "we have no money." What is really implied is that we are unwilling to allocate or reallocate funds for appropriate support services for individuals with disabilities in sufficient intensity to make them effective, because we want to spend our $92 million on other things. This could, however, be considered a variant of the "add-on/afterthought" syndrome: "if any resources are left after addressing all our higher priorities and desires, we will assign them to address needs of special populations." In either case, attitude, not lack of resources, is the driving factor.

Fatalism is expressed by phrases such as "we've always done it that way," "they're always like that," or "it will never work," to mention a few. Key features are the actual or implied use of the words "always" and "never" coupled with sweeping, inclusive categories - "they," "we," and so forth. Staff manifesting this attitude do not really believe that individuals can change, especially for the better, nor do they believe that as individuals they can have any real impact on anything, especially to improve it.

Typical organizational barriers include poorly trained staff; unclear, contradictory, or incompatible organizational goals; inefficient program design; ineffective instructional approaches; dated curricula; weak leadership, and factionalism among staff, to mention a few. Ultimately, though, both sets of barriers can be viewed as manifestations of the one true barrier to developing and implementing effective educational and support services for students with disabilities at the community college level: lack of commitment.

What Must Be Done

Organizationally, educators must invest the time and energy necessary to learn about approaches with proven effectiveness, and adapt or adopt them in their own schools. A corollary of this orientation to seek out and adapt proven approaches is to cultivate an awareness of what constitutes good research and evaluation, and develop the skills needed to translate research findings and evaluation results into tangible changes in the daily behavior of school personnel.

Personally, educators must examine themselves for manifestations of destructive attitudes such as those mentioned above, and take concrete steps — embodied in individual's staff members' annual

contracts, performance evaluations, staff development options, and so forth — to eradicate them; and empower students by instructing them in self advocacy skills, and making them true partners in the educational process. Fostering a commitment to serve the educational needs of students with disabilities is the starting point. From then on, most barriers become "technical" problems, and Americans are at their best when solving technical problems.

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Postsecondary Vocational Education—Does It Really Make a Difference?

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Abstract: The authors of this study investigated the association between postsecondary vocational education and adult adjustment of individuals with learning disabilities, behavioral disorders, and mental disabilities whose class had been out of high school for three years. The sample consisted of 130 individuals who had enrolled in postsecondary vocational education and 407 who received no postsecondary training of any kind. These participants were part of a statewide random sample of 50% of the graduates and dropouts from all special education program models in the state of Iowa. Postsecondary vocational education consisted of enrollment in a vocational education program at one of the state's 15 community colleges. Results are presented in terms of: (a) the characteristics of individuals who pursued postsecondary vocational education versus those who pursued no postsecondary training, (b) the association between participation in postsecondary vocational education versus no postsecondary training and adult adjustment, and (c) the association between the type of postsecondary vocational education completed and current job area. Variables examined related to general adult adjustment status, general employment status, and occupational status of current job. Results indicated that the nature of the association between postsecondary vocational education and adult adjustment varied according to disability area. Participants with a match between postsecondary education program and current job area performed substantially higher in specific areas of adult adjustment than those whose vocational education program did not match their current job area.

Introduction

The Individuals with Disabilities Act has identified postsecondary education as one of the major outcomes of the process of transition from school to adult life. Both national and state level studies (Affleck, Edgar, Levine, & Kortering, 1990; Liebert, Lutsky, & Gottlieb, 1990; Neel, Meadow, Levine, & Edgar, 1988; Rogan & Hartman, 1990; Siegel, Robert, Waxman, & Gaylord-Ross, 1992; Sitlington & Frank, 1990; Sitlington, Frank, & Carson, 1992; Wagner, D'Amico, Marder, Newman, & Blackorby, 1992; Wagner, Newman, D'Amico, Jay, Butler-Nalin, Marder, & Cox, 1991) have argued that postsecondary vocational education is one of the major means of empowering individuals with disabilities to move beyond entry level employment that yields minimum or slightly above minimum wage compensation.

These same studies have documented that when compared to individuals without disabilities, a much lower percentage of individuals with disabilities, even mild disabilities, go on for postsecondary training of any type. Other studies (Miller, Rzonca, & Snider, 1991; Miller, Snider, Rzonca, 1990; Vogel, Hruby, & Adelman, 1993; Wagner et al., 1991; Wagner et al., 1992) have examined the characteristics of individuals who choose postsecondary education and the variables affecting the

choices individuals with disabilities make related to postsecondary education. The authors of this current study could find no studies which investigated the actual effect of postsecondary vocational education on the adult adjustment of individuals with disabilities once they were out of school for at least a short period of time.

This investigation was a subcomponent of the Iowa Statewide Follow-up Study, which was a five-year project designed to study a 50% random sample of students of all disabilities receiving special education services through all program models. The authors designed this study to investigate the association between postsecondary vocational education and the adult adjustment of individuals with learning disabilities (LD), behavioral disorders (BD), and mental disabilities (MD), once these individuals had been out of high school three years. For the purposes of this study, postsecondary vocational education consisted of enrollment in a vocational education program at one of Iowa's 15 community colleges, the major option for postsecondary vocational education in the state. These colleges serve merged geographic areas throughout the state; most of these institutions have both a liberal arts and vocational/technical component.

Specifically the authors of this study investigated: (a) the characteristics of individuals with disabilities who pursued postsecondary vocational education vs.those who pursued no postsecondary education, (b) the association between participation in postsecondary vocational education vs. no postsecondary training and adult adjustment, and (c) the association between the type of postsecondary vocational education completed and current job area. Data were analyzed separately for individuals with LD, BD, and MD, and for separate vocational education program areas, where numbers justified analyses. We also hoped to investigate the effect of those whose secondary and postsecondary vocational training matched their current job. The number of individuals who met the latter criteria, however, was too small to permit analysis. Variables examined in all analyses related to general adult adjustment status, general employment status, and occupational status of current job.

Method

Participants

The participants in the present investigation were drawn from the high school class of 1985, surveyed one and again three years after their class was graduated (i.e., Summer 1986 and Summer 1988). Each of the 15 Area Education Agencies (AEAs) in the state of Iowa prepared a list of special education students (all exceptionalities) who were graduated from, or aged out of, high school in 1985. A second list was prepared for special education dropouts from the Class of 1985. For each AEA, 50% of the students on each list were randomly selected for inclusion in the sample. At Year 3, interviewers sought to survey the entire 50% random samples selected at Year 1.

Of the total sample of approximately 1,000 randomly selected former special education students (of whom about 80% actually were interviewed), 130 (LD = 79, BD = 17, MD = 34) were interviewed at both Years 1 and 3 and reported they had attended a postsecondary community college program, but were not a student at the time of the Year 3 interview. An additional 407 (LD = 186, BD = 35, MD = 186) were interviewed at both Years 1 and 3 and reported they had attended no postsecondary program of any kind. These two groups constituted the participants in the present investigation. The remaining persons in the total sample participated in some type of postsecondary education or training as follows: private training programs (35%), military

(23%), junior college (15%), four-year college (12%), adult-based education (10%), and apprenticeships (5%). The individuals in the latter categories were not a part of the present investigation.

Selected characteristics of participants were obtained from their permanent school records (see Table 1). The most commonly used test for assessment of academic achievement was the Woodcock-Johnson Psychoeducational Battery (Woodcock, 1978). The reading and math portions of this test were administered to the majority of participants within 3 years of the time they were graduated from high school. (See p.92)

The term program model in Table 1 is used synonymously with type of special education model attended by individuals while in high school. Supplemental assistance refers to support services given to special education students attending regular classrooms on a full-time basis. Students attended the model designated resource teaching programs (RTP) for a minimal average of thirty minutes per day; these students attended regular classes for the remainder of each school day. In the special class with integration model (SCIN), students attended special classes for the majority of the school day, while participating in the general education curriculum in one or more academic subjects. Students in special classes with little integration (SCIN-L) were integrated into regular classes for limited participation. Students in self-contained special classes (SSC) received all of their instruction from a special education teacher. Institutional schools were segregated facilities within institutional facilities. Iowa Department of Education rules require that students labeled MD must have an IQ of at least 1 standard deviation below the mean (i.e., approximately 85 or below) on an individually administered intelligence test and exhibit an adaptive behavior deficit. This definition encompasses a higher functioning population than does the more common definition, which uses a minus-2-standard-deviation cut-off point on intelligence tests.

Instrumentation

The survey instrument was developed in collaboration with representatives of the 15 AEAs and selected schools in the state of Iowa, then field-tested on a random sample of 878 participants throughout the state.

The survey instrument was completed by obtaining data from school records and through interviews with participants. The following types of information were sought: background data (e.g., test scores from high school, disability label, program model); information pertaining to high school program (e.g., number of regular and special vocational education courses taken, extracurricular activities); information about current life circumstances (e.g., marital status, living arrangements, leisure activities); and information about past and current employment (e.g., job experiences during high school, location of current job, wages earned, and hours worked).

Procedure

Interviews were conducted by professionals such as work experience coordinators, consultants, school psychologists, and teachers from the participant's school district or AEA. Interviewers were supervised by the follow-up project task force member from their respective AEA. In addition, project staff developed an in-depth interviewer handbook and sample interview forms and conducted training sessions to ensure consistency across interviewees. The project director was on call to answer any questions arising from actual interviews. Where possible, interviews were conducted face-to-face with the former student. When an individual could not be contacted either in person or by telephone, a parent or guardian was interviewed. Of the Year 3 interviews analyzed in this study for participants with

Table 1. Selected characteristics of participants prior to exiting from high school

Variable	Subgroups					
	With Community College Training			With No Postsecondary Training		
	LD	BD	MD	LD	BD	MD
Gender (%)						
Males	76	65	47	78	69	53
Females	24	35	53	22	31	47
Full Scale IQ						
M	96.9*	92.3	76.2*	92.6	88.3	69.0
SD	9.5	12.3	5.4	8.6	11.9	14.4
Academic Achievement (Grade Equivalents)						
Math						
M	7.7*	6.5	6.2*	6.9	6.7	4.9
SD	2.3	3.0	2.3	1.9	2.4	1.9
Reading						
M	7.4*	8.8*	5.7*	6.2	7.0	4.5
SD	2.9	2.2	2.2	2.1	2.3	1.9
Program Model Attended (%)						
Supplemental Assistance	1	6	0	0	0	0
Resource Teaching	80	41	33	79	31	22
Special Class with Integration	18	29	61	18	31	43
Special Class with Little Integration	1	0	6	3	17	27
Self-contained Special Class	0	18	0	0	20	7
Institutional School	0	6	0	0	0	1
Graduation Status (%)						
Graduated	95	77	97	89	77	91
Dropped Out	5	23	3	11	23	9

** ≤ .05 when compared with mean score for same disability group without postsecondary training*

community college training, 38% were face-to-face with participants, 36% were by telephone with participants, 6% were face-to-face with parents/guardians of participants, and 19% were through a telephone interview with parents/guardians of participants. Of the Year 3 interviews analyzed for participants with no postsecondary training, 42% were face-to-face with participants, 30% were by telephone with participants, 10% were face-to-face with parents/guardians of participants, and 19% were through a telephone interview with parents/guardians of participants. Data analyses were conducted using routines described in the SPSS-X User's Guide (1986).

Results

The first part of the *Results* section includes information about the adult adjustment three years out of school of the two primary groups of participants: (a) those who attended a postsecondary vocational education program at a community college after exiting high school, and (b) those who did not attend any type of postsecondary training program after high school. The second part of the *Results* section presents data about the adult adjustment of two subsets of the participants who attended a postsecondary vocational education program at a community college: (a) those whose current job category (i.e., Trades & Industry, Agriculture, Health Occupations, Home Economics, or Office) *did* correspond to their community college program category (same categories as for current job), and (b) those whose current job category *did not* match their community college program category. Throughout the *Results* section the term "Community College Training" refers to postsecondary vocational education provided in a community college. As mentioned in the introduction, community colleges are the major provider of postsecondary vocational education in the state of Iowa.

Participants with Community College Training

The most frequently attended community college program was Trades & Industry, where 69% of the individuals with LD, 53% of the individuals with BD, and 45% of the individuals with MD participated. Other training programs and participation levels included Agriculture (14% LD, 7% BD, and 0% MD), Health Occupations (8% LD, 13% BD, and 31% MD), Home Economics (4% LD, 20% BD, and 21% MD), and Office (4% LD, 7% BD, and 3% MD).

A comparison of individuals whose community college training matched their current job category revealed that 92% of the individuals with LD, 100% of the individuals with BD and 78% of the individuals with MD whose current job was in the Trades & Industry category had participated in a similar program in a community college. Eighty-nine percent of the individuals with LD and 0% of the individuals with either BD or MD whose current job was in Agriculture had participated in a corresponding community college training program. Seventy-five percent of the individuals with LD, 0% of the individuals with BD, and 100% of the individuals with MD whose current job was in Health Occupations had participated in a related community college training program. The percentages of individuals whose current job and community college training both were in Home Economics were: LD, 29%; BD, 50%; and MD, 50%. Thirty-three percent of the individuals with LD whose current job was in Office work reported participating in a corresponding community college program, while none of the individuals with BD or MD who were employed in Office occupations had participated in a related community college training program.

A comparison of individuals whose high school vocational education program matched their community college training program revealed that 10% of

the individuals with LD, 12% of the individuals with BD, and 31% of the individuals with MD who participated in a community college Trades & Industry program also had participated in such a program while attending high school. Sixty percent of the individuals with LD, 100% of the individuals with BD, and 0% of the individuals with MD who participated in a community college Agriculture program had participated in a similar program while in high school. Seventeen percent of the individuals with LD, 0% of the individuals with BD, and 22% of the individuals with MD who participated in a community college Health Occupations program also had participated in corresponding program while in high school. The percentages of individuals who reported participating in a community college Home Economics program and a corresponding program in high school were 100% for the individuals with LD, 33% for the individuals with BD, and 50% for the individuals with MD. Sixty-seven percent of the individuals with LD who reported participating in a community college Office program participated in the same type of program while in high school, as did 100% of the individuals with BD and MD.

Comparison of Participants with Community College Training vs. no Postsecondary Training

Table 2 presents data concerning the types of jobs (Job Status) held by participants. Job types were classified by the researchers according to a procedure reported by Reiss, Duncan, Hatt, and North (1961).

Table 3 presents a comparison of adult adjustment information concerning the two groups of participants. When a difference between two corresponding groups (e.g., LD with community college training vs. LD with no postsecondary training) was greater than or equal to 10% (or $0.50/Hour for Wages, or a change in Job Status level), the cell for the group which exhibited the more positive outcome was shaded. Inspection of Table 3 reveals that one substantial difference was found among participants with LD; more individuals who had attended a community college program held higher status jobs than did individuals with no postsecondary training. A second comparison of individuals with BD shows that those who attended a community college program were succeeding at substantially higher levels on two variables: percent employed and percent receiving health insurance. However, the individuals with

Table 2. Job status of employed participants with community college training vs. those with no postsecondary training

Job Status	Community College Training			No Postsecondary Training		
	LD	BD	MD	LD	BD	MD
Laborer	23	18	29	42	42	42
Service Worker	17	50	38	13	37	41
Operative[a]	19	0	4	19	5	12
Higher Status[b]	41	32	29	26	15	5

Note. *All numbers are percentages.*

[a] *E.g., meat cutter, truck driver, assembly line worker.*

[b] *Farmer, craftsman, protective service, clerical, professional 2, other.*

BD who did not participate in any postsecondary training were receiving substantially higher wages and more often were living independently.

The majority of the substantial differences were exhibited by participants with MD. Those who had attended a community college program had achieved substantially higher levels of adult adjustment on the following variables: independent living, employment, proportion receiving no financial assistance, full-time work, wages, health insurance, vacation time, and at least 1 raise in wages. No substantial difference favored participants with MD who had no postsecondary training.

Comparison of Subgroups of Participants with Community College Training

In order to further explore the relation between participation in community college training and adult adjustment, an additional analysis was conducted in which individuals whose current job classification matched their community college training were compared to individuals whose current job classification did not match their community college training. Individuals were placed into one of the following categories based upon their description of their current job: Trades & Industry, Agriculture, Health Occupations, Home Economics, or Office. This

Table 3. Comparison of participants with community college training vs. those with no postsecondary training on key adult adjustment variables

Variable	Community College Training			No Postsecondary Training		
	LD	BD	MD	LD	BD	MD
General Status						
Lives Independenty	46	29	53	51	46	39
Employed	87	71	82	82	54	68
Pays All Expenses	54	41	32	54	37	33
Receives No Financial Assistance	68	47	56	74	51	33
Employment Status						
Full-Time Work	80	58	82	86	63	56
Wages/Hour	$5.67	$3.73	$5.14	$5.61	$4.62	$3.29
Health Insurance	49	42	57	49	16	27
Sick Leave	29	8	36	29	16	29
Vacation	52	17	64	45	10	50
At Least 1 Raise	70	50	71	65	56	55
Job Status[a]	3	1	1	1	1	1

Note. *All numbers are percentages, expect Wages/Hour and Job Status*

[a] *In Table 2, if Laborer + Service Worker ≥ 10% over Operative + Higher Status, then Job Status = 1. If difference < 10%, then Job Status = 2. If Operative + Higher Status ≥ 10% over Laborer + Service Worker, then Job Status = 3.*

Denotes a difference ≥ 10%, a difference of $0.50/Hour for Wages, or a change in Job Status level between corresponding groups., e.g., LD with community college training vs. LD with no postsecodary training. In each instance of a difference, the shaded cell indicates a more positive outcome.

same procedure was used to categorize (same categories as for current job) participants based on the type of community college training program attended . Individuals for whom these two categories were identical were coded "Community College/Current Job Matched;" participants for whom a match was not found were coded "Community College/Current Job Didn't Match." Table 4 presents data concerning the job status (Reiss et al., 1961) of individuals in both categories. Data for some participants for whom there was a match between current job and community college training have not been reported here because fewer than five individuals were involved.

General and employment status data for individuals included in this second analysis are presented in Table 5. The procedures for making comparisons between groups were the same as those used in making comparisons between participants with community college training vs. no postsecondary training, with one exception. Each comparison involved three groups rather than two (e.g., LD vs. LD AG vs. LD TI in Table 5). In order for a difference to be considered substantial in favor of the "Community College/Current Job Matched" category, *both* disability-specific columns had to meet the 10% rule. Only one comparison favored individuals in the "Community College/Current Job Didn't Match" category, where substantially more participants with MD reported paying all of their living expenses. All other comparisons which revealed substantial differences favored individuals in the "Community College/Current Job Matched" category. Two of these differences were found for individuals with MD (full-time work and health insurance), and two for individuals with LD (raise in wages and job status).

Discussion

The results of this investigation are discussed in the following areas: (a) overall comments on the process of studying the association between postsecondary vocational training and adult adjustment, (b) characteristics of individuals with postsecondary vocational educa-

Table 4. Job status of employed participants with community college training that did not match their current job classification vs. those whose community college training matched their current job classification

Job Status	Community College/Current Job Didn't Match[a]		Community College/Current Job Matched			
	LD (n=14)	MD (n=10)	LD AG (n=8)	LD TI (n=35)	MD HO (n=5)	MD TI (n=7)
Laborer	7	30	25	29	0	57
Service Worker	43	40	0	0	100	0
Operative	21	0	13	26	0	0
Higher Status	29	30	63	46	0	43

[a] *The number of individuals with BD was insufficient to conduct an analysis here.*

Note 1. *All numbers are percentages.*

Note 2. *LD AG = Individuals with LD who participated in Agriculture training program*
LD TI = Individuals with LD who participated in Trades & Industry training program
MD HO = Individuals with MD who participated in Health Occupatons training pro
MD TI = Individuals with MD who participated in Trades & Industry training program

Table 5. Comparison of participants with community college training that did not match their current job classification vs. whose community college training matched their current job classification on key adult adjustment variables

Variable	Community College/Current Job Didn't Match		Community College/Current Job Matched			
	LD	MD	LD AG	LD TI	MD HO	MD TI
General Status						
Lives Independently	36	60	88	37	60	43
Employed	100	100	100	100	100	100
Pays All Expenses	50	50	88	54	0	29
Receives No Financial Assistance	71	60	100	69	60	57
Employment Status						
Full-Time Work	79	60	88	80	80	100
Wages/Hour	$4.78	$4.23	$4.68	$6.59	$4.42	$6.32
Health Insurance	50	20	38	57	80	57
Sick Leave	29	30	12	26	20	43
Vacation	57	50	12	60	80	57
At Least 1 Raise	43	70	57	82	60	71
Job Status[a]	2	1	3	3	1	1

Note. *All numbers are percentages, except Wages/Hour and Job Status.*

[a] *Table 2, if Laborer + Service Worker ≥10% over Operative + Higher Status, then Job Status = 1. If difference <10%, then Job Status = 2. If Operative + Higher Status ≥10% over Laborer + Srevice Worker, then Job Status =3.*

Denotes a difference >10%, a difference of $0.50/Hour for Wages, or a change in Job Status level within a disability group, e. g., LD vs. both LD AG and LD TI, or MD vs. both MD HO and MD TI.

tion, (c) the association between participation in postsecondary vocational education vs. no postsecondary training and adult adjustment, (d) the association between the type of postsecondary vocational education completed and current job area, and (e) recommendations for further study. These areas will be discussed across the disability areas of LD, BD, and MD.

Overall Comments

Before we begin a discussion of the results, it should be pointed out that this study must be considered exploratory in nature. Although the study began with a statewide random sample of 50% of individuals from special education (a sampling percentage larger than most state-level studies), there were relatively small numbers of students in a number of the categories when we began to investigate specific vocational preparation areas corresponding with current job area. This was particularly true for LD with agriculture training, and MD with health occupations and trades and industry training. Second, we have no evidence of how

many individuals completed training or any indication of how each individual performed in the training program. Third, because this was a descriptive investigation, we have not studied the actual effect of a coordinated secondary/postsecondary training sequence on adult adjustment was not studies. Thus, *associations* between postsecondary vocational education and adult adjustment are being examined. Finally, those individuals who entered postsecondary vocational education had significantly higher reading levels, math levels, and IQ scores (as measured by past achievement and IQ tests) than those with no postsecondary training (this was not true for IQ and math scores of individuals with BD). Even with these limitations, however, there are a number of interesting findings that emerged from this study and deserve discussion and further investigation.

Characteristics of Individuals with Postsecondary Vocational Education

As mentioned in the previous section, individuals with LD and MD who chose to go on for postsecondary vocational training scored significantly higher than individuals with no postsecondary training on the latest measures of math, reading, and IQ that were administered while they were still in high school. Individuals with BD scored significantly higher than those with no postsecondary training only in the area of reading. Although all of these differences were statistically significant, the differences in actual grade equivalents or IQ score were often fairly small.

It is not surprising that the highest area of postsecondary enrollment for all disabilities was trades and industry. The second highest program selection for MD was health occupations and for BD was home economics, also an interesting finding. It should be noted that the programs with the highest percentages of enrollment at the postsecondary level had the lowest relation to training at the secondary level. Conversely, programs with the highest match between secondary and postsecondary training had the smallest initial enrollment at the secondary level.

Postsecondary Vocational Education vs. No Postsecondary Training and Adult Adjustment

The association between the presence or absence of postsecondary vocational education and adult adjustment appears to vary according to the specific disability of the individual. Individuals with MD who received postsecondary vocational training did significantly better (as defined) than those with no postsecondary training on three of the four areas of general adjustment and five of the seven areas of employment. Individuals with LD with postsecondary training were in higher status jobs than those without postsecondary training. The results for individuals with BD were mixed, however, with those having postsecondary vocational training doing better in terms of employment and health insurance, but not in terms of living independently or wages. The training and other support provided by postsecondary vocational education programs appears to be most beneficial to individuals with MD who may have a harder time succeeding in adult life without additional preparation. The mixed results for individuals with BD may be related to the underlying problem of lack of social and interpersonal skills that is often associated with this group. Such problems may not have been alleviated through postsecondary vocational training.

Finally, it would interesting to survey this same group five years out of school. By the very fact that individuals with postsecondary training remained in school longer than their counterparts without postsecondary training, they have had less time to establish themselves in a given job and in a living situation. The presence of postsecondary training did assist individuals with LD in obtaining higher status jobs. It also

assisted individuals with BD and MD in moving in the direction of higher status jobs, although the differences were not significant.

Postsecondary Vocational Education and Current Job Area

The association between corresponding current job and postsecondary training areas was significant for LD in the two upward mobility categories of job status and receiving at least one raise in wages. The effect of a match also was significant for individuals with MD in terms of full-time work and health insurance. These effects are very possibly an interaction of the disability and the type of vocational program, i. e., agriculture vs. health occupations and the type of jobs associated with these fields. Individuals with MD without a match between training area and current job, however, did significantly better in paying all expenses.

Recommendations for Further Study

As with all other areas of transition planning and implementation, we must thoroughly examine the effects of postsecondary vocational training on individuals with disabilities and determine what aspects of this training are most beneficial for the youths and adults served are needed. Two of the limitations of this study will be faced by anyone doing future research on this topic--low numbers of individuals in specific vocational areas and higher functioning level of individuals going into postsecondary training vs. no training. The authors belive that it is critical to examine the effects of postsecondary vocational training for each disability area *and* across vocational training areas. Many of the individual results revealed in this study may have been lost by grouping individuals of all disabilities or merging across all vocational areas. The effect of the match between the vocational program area and current job should be further explored. Is postsecondary training in any area effective in aiding adult adjustment, or is it critical that a match be made between training and employment area?

The study of the effects of postsecondary training is a difficult one. The longer an individual is out of school, the more difficult it is to say which education factors have influenced adult adjustment. The study of this area will require interviewing individuals who have been out of school *at least* three years. It also will require a larger sample of individuals than has been included in previous studies, or a representative sample of individuals that can be generalized to groups as a whole.

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Effectiveness of Special Education Programs — Deriving Empirical Strategies for Efficient Resource Allocation

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Abstract: The authors report findings of a benefit-cost analysis of special education for youth with disabilities. The cost of their public school instruction was evaluated in terms of their post school employment status. The analysis confirmed that the cost of their education is about twice that of non-disabled students. The authors also found that measures of social and prevocational competence were better predictors of post-school employment status than the traditional measures of academic performance. An administrative plan to improve special education through a reallocation of available resources is presented.

Two facts create a seemingly intractable deterrence to the efficient administration of special education school programs. On the one hand, not only is the average cost of public instruction for a child with a disability twice that of their regular education peer (U.S. Department of Education, 1989) but the total cost of such programs has risen steadily with increasing numbers of students since the passage of the Education for All Handicapped Children Act (PL 94-142) (e.g., Parrish, 1994). On the other hand, school administrators of special education programs have been unable to answer critics who argue that despite all of their costs, special education programs for children with a disability are not particularly effective. Over 200,000 adolescents and young adults with disabilities exit special education high school programs each year (U.S. Department of Education, 1993) but more than half of these youths fail to find appropriate jobs (Wagner, 1989). This inefficiency implies severe criticism for the management of special education school programs.

The present study examined the efficiency of public school special education on the post-school employability of youths with a handicapping condition. Because we understand that youths with handicapping conditions have difficulty in gaining employment in the early time period after exiting school, we asked more specifically whether the allocation patterns of education resources in school could be modified so as to increase the rate of successful post-school adjustment. In other words, we examined the question of whether limited funds could be spent more effectively and thus more efficiently. Our approach is to make special education more prevention-oriented.

This study's hypothesis was that the efficiency and effectiveness of special

education can be measured by relating per-pupil program costs, not only to the amount, but also to how they are spent, to the post-school status of former students.

There are three key steps to evaluate this hypothesis.

1. Identify Special Education Program Costs. Determine accurately what special programs cost and how that cost is constituted in order to assess the impact of these programs;

2. Evaluate Special Education Programs. Analyze the post-school status of students who exited from special programs with respect to that program's impact on their community status, e.g., employment;

3. Identify Future Program Needs. Consider reallocating the program's resource as a function of performance outcomes in order to develop options for future program modification, e.g., changing staffing patterns.

This hypothesis postulates that the post school community status of special education students can be differentiated by both the content of these youths' special education program during high school as well as their personal (social and prevocational) characteristics as young adults. In turn, this information on the present status of former students can be translated into recommendations for improving service delivery to current students. These data on special program costs and post-school outcomes were obtained from a cooperating public school district in Stoughton, Wisconsin.

Step One: Identify Special Program Costs

Method for Cost Calculations

An accurate estimate of per student educational expense for his/her educational program requires an accounting of each student's supported activities at school and cost of those activities. Based on the available national statistics for school costs at the state level, it is estimated that roughly two-thirds of the variation in per-pupil costs can be explained by teacher salaries (National Education Association, 1987). Thus, a precise estimation of teacher expenses can generally lead to a fairly good estimate of per-pupil costs for different school programs.

In this paper, we generally followed a procedure to estimate school costs as suggested by Raphael, Singer, & Klein Walker (1985). We aggregated all direct teaching costs on a per special program basis. This was done by identifying the salaries and fringe benefits for each teacher or aide with direct instructional responsibilities for a particular generic program. Salaries and fringe benefits of substitute teachers as well as the cost of materials and supplies were also included. We apportioned indirect costs for instructional support and administrative overhead on a per-pupil basis.

Many special education students spend some of their time in regular education classrooms with their peers. Therefore, a portion of the salaries and fringe benefits incurred by regular education staff teaching these courses should be allocated as expenses toward the corresponding special program. In Wisconsin each school district is expected to compile and report full-time equivalency (FTE) by educational category. FTE indicates the percentage of time spent by a student in both special and regular education classroom settings. We used the FTE data to estimate the cost of mainstreaming students who have a disability.

Characteristics of the School District

The per-pupil cost of each generic program of special education in our target school district was estimated for the 1984-85 school year. The district was

selected because of its long history of successful special programs. The year 1984-85 was selected because it marked a change in the delivery of special education services within the district. In particular, special education at the high school was modified that year to include not only curricular options for basic academic training, but also expanded opportunities for vocational education practica and on-the-job training of youths with special needs. This provided a naturally occurring basis for examining the effectiveness of these new program initiatives as well as efficiency in the related management plans to allocate available resources. The total student population in the district is moderate with approximately 2,900 students. This is somewhat higher than the state average. There are two elementary schools, one middle school, and one high school in the district. The student-teacher ratio was 16.63 to 1. This is consistent with the state average of 16 students to 1 teacher. The school community is a medium-sized town in Wisconsin with a total population of 8,700 people. The community supports a variety of small businesses and shops. It is located in a semi-rural part of the state but in close proximity to industrialized areas.

Cost Findings

Table 1 itemizes program costs for regular education and special education students for the 1984-85 school year. It costs, on the average, $6,093 to educate a special education student. When mainstreaming is taken into account, teacher salaries and fringe benefits accounted for most of the total cost (about 65.6%). Administrative and other overhead costs amounted to $1,368, or about 22.5% of the total cost. Instructional support costs made up the remaining 11.9% of the expenses for this school year.

A further analysis of these cost figures revealed significant cost differences across special education programs. Teacher salaries and fringe benefits represent the largest share of the total cost per student in each special program. However, these salaries on a per-student basis were different for different generic programs. For example, the costs of educating a "typical" student enrolled in a class for the Emotionally Disturbed (ED) was $7,922 per year, while the cost was $4,691 for a "typical" Early Childhood (EC) student. In fact, it appears that it was 69% more expensive to educate a student in an ED class than an EC student. These observed differences in special program costs for our target school district were consistent with other literature reports (e.g., Kakalik, 1979; McInerney, Kane, and Pelavin, 1992).

Large discrepancies in the cost of different special programs can be explained by a combination of factors. These include (a) program needs for fixed equipment, (b) the student-teacher ratio, and (c) the degree of mainstreaming. These factors are generally subject to local administrative review. For example, public school districts in Wisconsin have some latitude in defining specific student-teacher ratios for particular special programs. As such, from a management planning perspective, administrative decisions to allocate available resources across various special programs could be reviewed in terms of these factors and modified.

Step Two: Evaluate Special Programs

Method for Benefit Calculations

Using benefit-cost analysis to evaluate educational programs is a relatively new application of a standard technique (e.g., Kerachsky and Thornton, 1987; Noble and Conley, 1987). In general, the analysis requires (1) specifying at least two alternative options to deliver special services, (2) identifying all costs and all benefits for each alternative, and (3) expressing all identified costs and benefits

Table 1. Summary of Special Education Program Expenses by Special Education Category (1984-85)

	Total Costs		Costs by Special Education Category				
	Reg .Ed. N=2659	Sp. Ed. N=264	EC N=32	ED N=46	LD N=143	EMR N=21	TMR N=22
I. Direct Teaching Costs	$1,904	$4,354	$2,955	$6,185	$3,646	$5,517	$6,093
teacher salaries & fringe benefits	1,745	3,140	2,593	4,643	2,175	4,544	5,173
cost of mainstreaming	0	855	0	1,181	1,109	611	0
instructional supplies	159	362	362	362	362	362	362
II. Instructional Support	368	368	368	368	368	368	368
III. Administrative Costs	1,368	1,368	1,368	1,368	1,368	1,368	1,368
Cost per pupil	3,640	6,093	4,691	7,922	5,382	7,253	7,829
Rate of Mainstreaming	0	48.8%	0.0%	67.4%	63.3%	34.8%	0.0%
Student per Teacher	16.1	11.5	9.1	4.8	15.9	8.4	3.7

** Special education categories are: Early Childhood (EC), Emotionally Disturbed (ED), Learning Disabled (LD), Educable Mentally Retarded (EMR), and Trainable Mentally Retarded (TMR).*

as dollar amounts. For each step, important methodological issues must be addressed before observed benefit-cost ratios can be calculated and compared.

In most public school districts, only one option to deliver special education is available. Children are placed in a particular special program only after formal diagnosis of a particular exceptional educational need. Because placement may, in effect, be a proxy for severity of handicapping condition, no alternative program option is available for benefit-cost comparisons. The lack of a "true" control group means that only hypothetical "post hoc" comparisons can be made.

Lewis, Bruininks, Thurlow and McGrew (1988) addressed these methodologic concerns when evaluating programs of special education in Minnesota and Vermont. These authors analyzed the benefit-cost ratios of special programs against the hypothetical alternative of institutionalization. This alternative would provide each handicapped child with eight years of regular education and then place him or her in an institution, beginning at 14 years of age, for the rest of his or her life. Many argue that institutionalization is neither an appropriate nor a necessary care option for most children with handicaps (Lakin & Bruininks, 1985). In fact, large institutions are closing in most states (Braddock, 1986; Stephens, Lakin, Brauen, and O'Reilly, 1990). This makes the hypothetical alternative of institutionalization somewhat obsolete.

Instead, we evaluated the special education programs in terms of post-school status of students who exited these programs. We assumed that special program costs were similar across the years of enrollment for all the targeted former students. Monetary benefit data was based on post-school employment histories one year after high school exit. We projected lifetime earnings and accepted limitations due to discounting factors (e.g., expected mortality rates). All cost and benefit data are adjusted for their present values in 1985 dollars.

Characteristics of the Student Sample

The sample comprised 37 former students of special education programs in our target school district. As high school students, each student had been formally evaluated and identified as handicapped due to problems of learning and/or behavioral adjustment. These were 16, 11 and 10 students, respectively, in special education classes for students with mental retardation, learning disabilities or emotional disturbance. This sample represented 45% of a specified cohort of former students. These youth had exited high school between 1979 and 1984 and at the time of the survey (1985), the median time since high school exit was three years. There were 22 males and 15 females in the sample. There were seven who failed to graduate from high school.

Each youth was personally interviewed in his/her home using a standard schedule of instruments. The protocol provided information on demographic characteristics, post-school employment histories and social and prevocational competence as young adults. We used a locus of control scale (Nowicki & Strickland, 1973), a normed self-rating scale of behavior management (Behavior Rating Profile, Brown & Hammil, 1983) and a normed test of general young adult knowledge (Test of Practical Knowledge, Wiederholt & Larson, 1983). Their school records were also searched for IQ data and school achievement data (reading and mathematics grade equivalent scores). This yielded estimates of their cognitive, reading, and mathematics skill levels as high school students.

Benefit Findings

Information on the monetary benefit of special education included five categories of post-school employment data: (1) type of job, (2) number of jobs held since high school exit, (3) number of months employed, (4) hours worked per month in the months employed, and (5) hourly wages. Approximately one-third of the former students were never employed in their first year after high school. Among those who were employed, half held unskilled jobs. A high job turnover was observed as expected because of the nature of the jobs. Roughly one-third of the employed former students had at least two jobs in their first year after high school. These youth did, however, work most of the year. The median employment was ten months. Most had worked almost full-time during those months.

Table 2 presents benefit-cost calculations for actual special program placements. We used the data entries in Table 1 for the projections of special education costs in Table 2. These costs are somewhat higher than special program costs as reported in Minnesota but are consistent with national estimates (e.g., Moore, Strang, Schwartz, and Braddock, 1988).

The average annual income is $2,578 before taxes for all former students in our sample, while the average for employed youth is $3,974. These averages are somewhat lower than wages in Minnesota but similar to wages in Vermont as reported by Lewis, Bruininks, Thurlow and McGrew (1988). It is possible that rate of pay for entry level positions are higher in large urban areas (e.g., Minneapolis) than in more rural settings in Wisconsin and Vermont.

Table 2. Benefit-Cost Comparison of Special School Program

Impact:	Social	=	Analytical Perspective: Student	+	Rest of Society
Benefits:					
Earnings	$37,376		$37,376		$0
Fringe Benefits	5,606		5,606		0
Taxes	0		(8,596)		8,596
Costs: Special Education	(73,116)		0		(73,116)

It follows from Table 2, the return on the educational investment of these former students still lags behind the cost of educating them. Their earnings in 85-86 constant dollars is less than one-half of the total schooling cost. We may not be able to fully bridge this gap but we can come up with alternative programs that will at least narrow this.

Factors Influencing Differential Benefits

Further analysis on the employment data revealed that the average monthly salary for high school graduates ($250) is nearly four times larger than that of high school drop-outs ($63) and that males ($249) tended to do better than females ($169). Both Hasazi, Gordon and Roe (1985) and de Bettencourt, Zigmond and Thornton (1989) reported similar high school graduation and gender differences in post-school employment histories for youth with a handicapping condition living in rural areas. We also found that former students employed at skilled jobs on the average earned 30% more than former students employed in unskilled jobs. In general, these data suggest that there is a differential benefit, i.e., some youth did much better than others.

This leads to a straightforward question: Why are some former students able to find appropriate jobs and why are others unsuccessful? In particular, we asked whether there were any differences in either basic academic skills or social and prevocational skills among the employed, underemployed, and unemployed youths in our sample.

We evaluated youths in terms of average monthly earnings ir the first year after school exit. Other authors (e.g., Hasazi, Gordon & Roe, 1985; Richardson, Koller & Katz, 1988) used percent of time employed as the criterion variable. We chose earning because it reflected the quality of a job. Both school records (IQ, Reading, and Math scores) and social and prevocational tests (Locus of Control, Behavior Rating Profile and the Test of Practical Knowledge scores) were used as predictors of average earnings. Earnings were adjusted to their 1985 present values.

Table 3 summarizes the regression results. The predictors in all explained 53.4% of the total variance in the average earnings. Of that amount, 43.7% was accounted for by the social and prevocational tests, primarily locus of control scores. School records accounted for only 8.5% of the variance.

This analysis revealed that post-school monthly wages were significantly related to social and prevocational competence, but were only marginally related to basic

academic skills. In fact, the basic academic training program was effective in influencing post-school success only for those former students with significantly higher social and prevocational test scores. Each of these youth had been afforded a rather traditional high school special education program. Their special program featured basic academic training requisites for diploma credentialing. The analyses clearly indicate that the traditional special education program experience does not train skills required for post-school employment and related community adjustment. Therefore, the emphasis of the special program, viz. basic academic training does not appear to be effective.

(Step 2) is that the special program was effective only for those former students with comparatively high social and prevocational test scores. These competencies, however, were not directly related to the curricular content of these youths' special school programs, viz. basic academic training. In other words, the special curriculum did not address requisite skills for post-school employability. What is an alternative curriculum?

Table 3. Regression Analysis of Average Earnings on Test Scores*

Test Scores	Mean	Standard Deviation	Coefficient	t-ratio	Sequential Sum of Squares
Monthly Earning	215	261			
IQ Score	79	14	-3.100	0.99	49751
Reading Grade	-4.4	2.3	7.000	0.53	22926
Mathematics Grade	-5.6	2.3	-56.720	-2.82	164565
Locus of Control Score	56	15	12.032	4.19	954624
Behavior Rating Profile Score	57	26	-1.355	-0.96	32416
Test of Practical Knowledge Score	27.6	24.8	2.645	1.51	87333
Constant			-4.950	-1.64	

* $r^2 = 53.4\%$

Step Three: Identify Future Program Needs

Method for Comparing Delivery Models

The final step in this exercise is to examine how the information on former programs can be used for better instructional needs among current students. What we found in the previous analysis

Specifically, based on our survey, we postulate that poor social and prevocational skills during high school lead to poor adjustment in the society. Such authors as Affleck, Edgar, Levine, and Kortering (1990) and Kiernan and Stark (1985) have suggested that deficits in these skill areas can be appropriately addressed through direct training on competitive jobs. Accepting these recommendations, we further assumed that social and prevocational competence among current students could be appropriately trained through expanded opportunities for vocational education practica and competitive job training during the high school years.

During the 1984-85 school year, the school district cooperating in this study

began a new program of alternative learning for handicapped and economically disadvantaged high school students. The program itself was part of a larger initiative in Wisconsin to create school partnerships with industry (Grover, 1986). The high school principal developed the alternative program by reassigning existing staff to a special resource room. These teachers provided target students with basic academic tutoring and career counseling at school and supervised social and prevocational training on local job sites. In its first year, the program served approximately 100 youth and was staffed by one former special education and three former regular education teachers.

The alternative learning program was an adjunct to the existing system to deliver special education services. In other words, during 1984-85, the local high school offered two distinct curricular options for handicapped adolescents. One option was traditional and featured basic academic training toward a high school diploma; the other was an alternative learning program which included expanded opportunities for pre-employment experience, viz. vocational education practica and on-the-job training. By examining how teachers and students spent their time in each program option, it was possible to compare different strategies to allocate available school resources. This information, in turn, could be used to calculate more effective and efficient management plans to provide for the transition needs of current students.

Characteristics of the Sample

A sample of 22 teachers employed at the local high school during 1984-85 was examined. Staff participation in the study was voluntary. There were ten regular education and eight vocational education teachers in the sample. Two special education teachers and two teachers assigned to the new alternative learning program were also surveyed. The sample comprised 31% of the available instructional staff.

We analyzed how these 22 teachers and their students spent time during a typical week at school. The teachers completed a brief survey questionnaire. The protocol specified four different types of teacher activity: (a) administrative record keeping, (b) daily lesson preparation, (c) group or small-group instruction, and (d) individual (one-to-one) instruction. These four activities, in effect, reflected different job responsibilities. The teachers were asked to report how much time they spent in each activity during an average work week. The percent of time or effort expended to fulfill (note — corrected spelling) a particular job responsibility was then calculated.

Student class schedules for 1984-85 were also examined. These data revealed how the students, taught by the teachers surveyed, spent time at school. The information was aggregated with respect to percent of classroom instruction afforded by programs of regular education, special education, vocational education, as well as the new alternative learning program.

Program Management Findings

Table 4 contains a comparison of resource allocation needs for the special education program option of basic academic training to the alternative option which includes pre-employment experience. The distribution of hours for an average work week for teachers (40 hours) and students (35 hours) is summarized. Average hours are aggregated with respect to different teacher responsibilities for instruction and different student schedules for enrolled courses. This distribution of teacher and student hours becomes the basis for comparing resource allocation needs under the basic academic versus alternative learning models.

Table 4 reveals that program management decisions substantially influence how teachers allocate their time in an

average work week. Within the basic academic model, teachers spend, on average, half of their week fulfilling administrative duties (record keeping and lesson plans) and half in direct instruction (group and individual). Under the alternative learning model, this ratio changes. These teachers were required to spend considerable time off school grounds supervising job placement sites. As a result of this management plan, teachers in the alternative learning program are enabled to spend more time in individual instruction than their basic academic counterparts.

Table 4 further reveals that different management options to deliver special programs also impact on how students spend their time at school. Students with a handicapping condition enrolled in basic academic training spent 18 of 35 class periods in regular education (52%), 12 periods in special education (34%) and five periods in vocational education (14%) each week. The large percent of time in regular and vocational education reflects an administrative decision at the district level to mainstream handicapped students whenever possible.

Table 4. Comparison of Need for Allocation of Teacher and Student Resources Under the Basic Academic Versus Alternative Learning Program Models

Resource Allocation Needs	Distribution of Hours for an Average Work Week*	
	Basic Academic Model	Alternative Learning Model
A. Teacher Responsibilities		
1. Record keeping	8	7
2. Lesson preparation	12	2
3. Group instruction	11	11
4. Individual instruction	9	20
Total Hours per Week	40	40
B. Student Class Schedule		
1. Regular education	18	13
2. Special education	12	7
3. Vocational education	5	5
4. Pre-employment experience	0	10
Total Hours per Week	35	35

** Note that data regarding distribution of hour was compiled from two sources, namely a) Teacher survey questionnaries (N=22 or 31% of staff) and b) student class schedules (N=50 handicapped students or 100% of EEN students for the 1984-85 school year)*

On the other hand, students enrolled in the alternative learning program spent ten of 35 class periods per week (29%) receiving pre-employment experience on local job sites. This was accomplished by reducing the amount of time spent in both regular and special education by one (50 minute) class period per day. Time spent in vocational education remained the same. These small shifts in student time did not affect observed student-teacher ratios.

From a program management perspective, it is important to note that the delivery system modification required to initiate the new alternative learning programs was accomplished at little or no extra cost. The key was to modify the more traditional academic curriculum to anticipate the post-school demands; specifically, competitive job training to increase social and prevocational competence. The program itself was developed through a management decision to reallocate existing resources by reassigning staff and modifying their job responsibilities.

Final demonstration of the efficiency of the alternative program, of course, awaits an empirical analysis of the adjustment success of these special education students in the community. Based on the preliminary data, the delivery model itself appears promising (Garber & McInerney, 1989). Similar initiatives for new alternative programs have been reported to be successful in other school districts in Wisconsin (Sherry & Gilles, 1987). These programs report, among other findings, increases in grade point average and rates of high school graduation for program participants. Positive post-school evaluation results for the alternative program in our target school district would further confirm the efficiency of this curricular option.

Discussion

This study generally confirmed that special education costs for children with a handicapping condition are roughly twice the cost of regular education youngsters, and cost data for 1984-85 in the cooperating school district was similar to current national estimates, consistent with research reports in Minnesota and Vermont when urban-rural differences are controlled.

These data also revealed that most former special education students fail to attain satisfactory vocational placements in the first 12 months after their high school exit. An evaluation of the post school status of the students revealed two competing profiles of vocationally successful and unsuccessful youth. One subgroup generally found and maintained nearly full-time competitive jobs at self-sufficient wages. The remaining two-thirds of the sample, however, was often unemployed and at best underemployed at sub-minimum wage jobs for the first year after their high school exit. Most importantly, however, is the fact that the profile of success or failure had little to do with the academic training program, presumedly directed toward the preparation of these youth for post-school experiences.

This study demonstrated that the more successful former students appeared to benefit from factors in addition to or besides the special academic instruction they received at school. Specifically, we found that successful vocational adjustment after high school is less related to academic performance in school and more related to measures of social and prevocational competence. Performance in these areas receives neither formal nor substantial emphasis on the special education program.

Accepting the need to train deficit social and prevocational skills during high school, we have argued that it is possible to modify teaching responsibilities to develop an alternative program to meet students' special instructional needs. Be-

cause only existing staff are utilized, the required program modification required no additional special education funds.

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AROUND THE WORLD of Special Education and Rehabilitation – IN BRIEF

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Israel

Desktop Publishing Enterprise – Established by a Group of Physically Disabled Enthusiasts

"AHVA", the Association of the disabled of Haifa and the North of Israel, was founded in 1979 as a non-profit organization. It was started by a small group of physically disabled persons who were united by the goal to organize a social club for other persons with similar handicaps and difficulties. Since then, the organization has grown and now includes several hundred members. "AHVA" operates a variety of social, cultural and educational activities. It runs a transportation service for members who have mobility difficulties, which is especially adapted for disabled persons in wheel chairs. "AHVA" has a chess team that participates in national and international competitions. It provides computer courses for disabled and multiply handicapped persons ho have additional disabilities such as sight or hearing impairment, brain damage or who have suffered a stroke. It offers special courses for new immigrants with disabilities in Hebrew, English and computer skills.

In April 1993, a desk top publishing enterprise was started. Eight graduates of the computer courses, provided by the "AHVA" sociation formed the core of the new company. The range of handicaps in the group is quite wide; including skeleto-muscular and neurological disorders, amputation, vision and hearing disorders, a combination of physical disability and mental illness. Three are confined to wheelchairs. Two others were employed, one is an expert in desk top computer publishing, the other is the administrator.

The initial budget that enabled the purchase of up-to-date equipment came from a variety of sources: the Jewish Agency, the National Insurance Institute, the Ministry of Welfare and private donations. During its first year of operation it has published magazines, brochures, commercial advertisements, and business correspondences. The company aims at high quality publications which demand precision and sophisticated use of computers. Soon after its opening, "AHVA" publishers were contacted by the editor of the journal – Issues in Specialbinv Education and Rehabilitation (ISER) with a request to be its publishers.

Towards the end of its first year of operation, the board of directors of the "AHVA" association conducted a survey of the employees' perceptions of their individual progress in the mastery of sophisticated computer work and satisfaction with their team work. They were also asked to indicate their individual interests in service training. The survey consisted of 4 parts – technical skills, occupational skills, social skills and personal satisfaction.

Results of the survey were as follows: Technical skills – all employees listed between one to four different types of new software programs mastered and they all learned to choose and use the most suitable software for a given task All employees indicated that they have attained mastery in designing and structuring a printed page.

Occupational skills – 75 per cent of the

team has had previous experience in working fixed hours, while for the remaining 25 per cent this was newly learned behavior. Another important skill which was indicated by 60 per cent of employees, was the ability to establish operational goals, and the ability to organize the entire work process independently, from beginning to end.

Social skills – the most outstanding finding was that all employees perceived their team experience as very important and emphasized the unique sense of mutual understanding and suppor resulting from their shared experience of having a handicap. There were, however, differences of opinion concerning the best way to resolve work related problems. While 25 per cent of the employees saw team meetings as an effective method of alleviating and resolving problems, another 25 per cent regarded it as useless, and the remaining half considered it as either useless or unnecessary. All employees indicated their desire to be involved in public relations for the newly formed enterprise.

Personal satisfaction – all employees expressed a sense of achievement and feelings of satisfaction. They specifically emphasized their new self-image as workers and as belonging to a team with a goal.

The second part of the survey presented the same four areas with the request from the employees to indicate their individual desires for further training.

In the area of technical skills, most (90%) wanted to learn more in the field of desk top publishing. They expressed a strong desire to learn everything new pertaining to desk top publishing equipment. They all indicated a desire to continue to learn and increase their mastery of new software programs, computerized graphic systems, the use of a scanner, and color printing. A third of the employees stated that they are striving for "achieving professional independence".

Several requests were made in the area of occupational skills. A few (13%) indicated that they would have liked to have had weekly goals and objectives set individually, rather than the existing procedure in which the administrative and technical managers plan and establish individual plans of work. Others (13%) felt that it should be the team's prerogative to establish plans and objectives.

All employees expressed the desire to learn more in the area of public relations and to contribute to the visibility of "AHVA" publishers.

All employees expressed a strong personal desire to continue their professional growth.

It can be concluded from the results of the survey that the "AHVA" publisher team has perceived its first year in operation as beneficial and the members stressed their sincere desire to continue to learn and grow so that they may thrive in the competitive market.

"AHVA"'s example highlights a change that is taking place in rehabilitation, that is, a change from facility based services and programs created for people with disabilities, to community based occupational choices, initiated and realized by the people with disabilities themselves (Brown et al., 1992) Such a transformation empowers workers, like "AHVA"'s team to "speak for themselves" effectively at governmental, agency, and community levels. The example of "AHVA" should encourage the self employment of other persons with disabilities, whether individually or in teams.

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Israel

"A dog brings hope" – A Proffessional Kennels Run by Members of "Kfar Tikvah" – a Village for Persons with Mental Handicapps

One does not argue with success, even if it is not measured by research statistics. You can simply sit on the lawn in Kfar Tikvah and witness a new form of co-existence: people and dogs, trainers and trainees, another small step in the direction pursued by the management of Kfar Tikvah since the 1970's - to bring the mentally-handicapped as close as possible to a normal life-style.

Kfar Tikvah was founded in 1964 as a non-profit public company. The intention was to found a permanent home and work-place for this sector of the population, whilst providing a guarantee to parents that their children would be looked after all their lives. Kfar Tikvah is sometimes the last hope for the mentally handicapped to live a social, productive and healthy life.

Small houses, similar to those on the Israeli kibbutz, the feeling of privacy in the heart of green, hilly surroundings, and productive work eight hours a day, all provide members with a purpose for living.

"I would like a wife and children. As a punishment from G-d, I have no children. The dogs are like my children" says Eyal, mentally-handicapped and suffering from an emotional disorder, who is participating in the first project of its kind in the world in Kfar Tikvah, using canine assisted therapy. Eyal adds, "The dogs make my isolation easier to bear. When I tend them and play with them, it definitely calms me down."

Shuki Levinger, deputy administrator of Kfar Tikvah, tells us that the idea to give mentally-handicapped people dogs as a form of treatment was born when he lived in the village with his family. He noted that members who came to visit him formed great attachment to his dogs. Eyal, who was one of these visitors, asked Levinger for a dog to raise in his house in order to ward off his loneliness. After receiving a dog, there was a stunning improvement in Eyal's condition. The psychotic attacks from which he suffered ceases and did not return, so far for a period of three years. His feeling of satisfaction with life also improved amazingly. Levinger says, "I have no doubt that this is what saved Eyal. Today he can come home irritable, angry and frustrated, but when he pats the dog and allows himself to cry with her, he feels that she accepts and loves him as he is, and this soothes him."

"Normal" society is stigmatic, and the handicapped person must fight all his life against misguided attitudes and social judgement. A dog on the other hand, provides unconditional love, and it is easier for all of us to love something that accepts us as we are, without demanding comparisons, exaggerated demands or struggles for control.

Research in Israel and abroad has proved that handicapped people such as those at Kfar Tikvah, have the ability of forming deep relationships with animals and especially dogs. The handicapped people can, like anyone, is thirsty for love, touch, caresses and relaxation. Canine care develops a feeling of responsibility, self-respect and independence in the handicapped person.

In modern industrial society, with its alienation, remoteness and retreat into itself, a dog serves as a bridge in the

building of social contact. Even exhibitions serve as a sport in which handicapped people can participate. When the handicapped person's dog wins, the handicapped person also wins a chance to bridge the social stigma surrounding him, and to form integrative contacts with normal people.

Two years' experience with a number of dogs and other members of the village brought results that far exceeded what has been written on the subject in research papers. Long-standing members of Kfar Tikvah have learned about working with dogs and spend many hours in the kennels and in the training yard.

Within a few months the influence was felt on their emotional condition, in the reduction of outbursts of rage, depression and retreating into themselves. Instead these patterns of behavior have been replaced by joy, concern, caring, and the desire to take responsibility and initiative. Heart-warming relationships have arisen between the handicapped trainer and the trainee dog.

In view of this success, it was decided to set up proper professional kennels in the village, to develop therapy through the training of dogs and to breed dogs for the mentally-handicapped in Kfar Tikvah and outside.

The project includes two branches - one therapeutic and one occupational. The handicapped person supervises the pup in the kennels for half a year, becoming involved in the stages of its growth and development, and thus acquires canine skills. When the pup has been house-trained, it is transferred to the member's living quarters, into his care and supervision.

The whole process is supervised by professional veterinary doctors and psychologists. For part of the therapy, Kfar Tikvah uses miniature schnauzers that have been found appropriate because of their size, health, easy disposition and their being a "one-man" dog, and most important of all, because of their ability to give and receive affection.

The plan is to breed schnauzers that will be offered for sale to handicapped children and adults living outside the village, dogs that will perform a therapeutic function based on the experience accumulated in Kfar Tikvah.

The occupational branch was founded out of the need for income to support the kennels in the therapeutic branch. The branch will include boarding kennels with proper facilities for 40 dogs, a veterinary clinic, a dog parlor, dog training, a canine museum and canine exhibition facilities. Part of the funding for the kennels has already been found, but as Levinger points out, the needs are great and resources few. Therefore he turns to dog-lovers and collectors to supply exhibits, books, video cassettes, and trophies, and to veterinary doctors to supply the needs of the veterinary clinic, such as x-ray equipment. Also any donation will be welcomed for the dog parlor, including a bath that can be raised, shearing and drying machines and hair-cutting tables.

The people at Kfar Tikvah responsible for this innovative project consider that the idea developed in the village can be used in other places throughout the world. Everywhere society is becoming more and more achievement-oriented and sophisticated, and people with limitations removing farther and farther away from the norm. Dog-breeding and care can serve as a bridge between the handicapped person and normal achievement-oriented society, counteracting the problem of the handicapped person's alienation in the modern world in which the power if extended and supportive family has weakened.

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