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Educating the learning disabled adult in Iowa's community colleges: a descriptive study

Marguerite J. Hunt
Iowa State University

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Hunt, Marguerite J., Ph.D.

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U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

Educating the learning disabled adult in Iowa's community colleges: A descriptive study

by

Marguerite J. Hunt

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INTRODUCTION

Vocational education is defined as "organized educational programs which are directly related to the preparation of individuals with employability and specific job skills required for paid or unpaid employment or for additional preparation for a career" (Department of Education, 1986-1988, p. 7). Through the years, several terms have been used to refer to this form of education. Such words as terminal, vocational, technical, semi-professional, occupational, and career have all been used interchangeably, or in combination, such as vocational-technical, to describe this job preparation curriculum.

Congress passed its first federal legislation for the development of vocational education programming in 1917, called the Smith-Hughes Act, it earmarked federal funds for institutions in which the educational programming offered was less than college level (Cohen & Brawer, 1984). Earmarked programs included agriculture, trade and industrial education, home economics, and teacher training.

The landmark Vocational Education Act of 1963 was designed not only to maintain several categorical programs, but also to give states more freedom in pursuing their own vocational education needs. The Act broadened the criteria for federal aid to the schools. Concomitant with this new

criteria, Congress generously appropriated funds--$43 million in 1968, $707 million in 1972, and $981 million in 1974--which were augmented with additional monies for occupational programs for the disadvantaged and for handicapped students. As of 1988, the nation's vocational education programs are operated with a federal budget of over $8 billion for services to over 17 million students.

Skill development is provided through educational programming where the requirements of a baccalaureate degree are not necessary for initial employment and/or further specialized training. Instructional programs include (1) classroom instruction, based on competencies necessary for the workplace; (2) the use of the community to provide learning opportunities (e.g., cooperative education and workstudy); and (3) involvement with student organizations.

In 1964 the National Advisory Committee on the Junior College reported that "the two-year college offers unparalleled promise for expanding educational opportunity through the provision of comprehensive programs embracing job training as well as traditional liberal arts and general education" (Cohen & Brawer, 1984, p. 191). This committee, as well as many other commissions and advisory groups, recommends that "immediate steps be taken to reinforce occupational education efforts" (Cohen & Brawer, 1984, p.

191). Today vocational/technical training is a viable and integral part of most two year institutions. In the 1980s, more than two-thirds of degree-seeking students were enrolled in vocational programs, and 71 percent of all associate degrees and certificates were awarded in vocational areas.

In recent years increasing numbers of learning disabled students, in need of academic and personal skill remediation, are enrolling in community college vocational education programs. Although historically, community colleges have incorporated remedial education into their curriculum and course offerings, there is a distinction between the severity and disparity of student ability. While attempting to provide services to the handicapped student, specifically the learning disabled student, immediate problems surfaced for the community colleges. The most serious problem encountered was identified in the May 1977 issue of the Federal Register--the lack of expertise. With the assistance of Higher Education and the Handicapped Project (HEATH) professional development training in the form of workshops, publications, and consultant training were made available. Upon completion of the training, these "new experts" moved on to become Special Needs Coordinators, a newly established administrative position in charge of

special services. Unfortunately, as the numbers of institutions and students requiring special services grow, the problem of a lack of expertise pervades (Phelps, 1980).

Other challenges were introduced when implementing Section 504 of the Vocational Rehabilitation Act. This law states:

> "Institutions must make whatever accommodations may be required to enable the handicapped student to participate in a vocational or academic program of their choice. Professional adjustments of this kind may entail using different teaching methods, accommodating the students learning style, or making use of alternative examination."

Further, it states:

> "All practices and procedures that may prohibit handicapped persons from entering institutions of higher learning or educational programs must be abolished. These practices may include admission procedures, testing, and interviews relating to health, welfare, or social service benefits. Pre-employment physical examinations related to extent of a disability is also prohibited."

Compliance with this and other federal vocational education legislations made the process of educating learning disabled students more complex. Funding became a problem. Concerned with a more equitable distribution of resources to serve special needs populations, Congress passed the Carl Perkins Vocational Education Act (PL 98-524). This 1984 federal legislation proposed to "(1) access vocational education programs to handicapped and disadvantaged persons; and (2) expand, improve, modernize,

and develop quality vocational education programs in order to meet the needs of the nation's existing and future workforce for marketable skills and, to improve productivity and promote economic growth" (Congressional Information Systems, 1984).

Public Law 98-524 became effective in Iowa in 1986. Existing vocational-technical education programs and future program planning in area community colleges has been and will be significantly impacted as a result of the enactment of this legislation. Specific implications were identified by Dr. Robert Benton, State Superintendent of Iowa Department of Public Instruction. He cites "(1) distribution of federal funds, (2) mainstreaming and separate programs, (3) population identification, and (4) the approval process" (see Chapter Two for further discussion).

Background Information

What is a handicap?

Influencing the community college mission of delivering remedial/developmental education to its clientele is the concept of supply and demand. Highlighted are educational reports and the identification of learning disabled adult students.

The Merriam-Webster Dictionary (1974) defines the term handicap as "a disadvantage that makes achievement difficult." When applying this definition to individuals, physical and/or attitudinal barriers preventing access to life's activities are promoted through stereotypic images of inferiority. Yet, approximately half of the population has a chronic condition of some sort, and of these people, nearly two-thirds have some limitation that infringes on their performance of daily activities (Wright, 1983).

Handicaps are often classified into two categories: visual and non-visual. Visual handicaps are disabilities that can be readily recognized. Adults with a visual handicap could have cataracts which impairs vision, paralysis or cerebral palsy necessitating the use of a wheelchair, or amputation of a lower limb requiring the use of crutches. Many of these visual handicaps require accommodations in the physical environment and some require modifications in the learning environment.

Other handicaps are classified as non-visual disabilities that cannot be determined by looking at the person. Examples of a non-visual handicap would include learning disabilities, hearing impairments, and epilepsy. Adults with a disability of this kind require modifications only of the learning environment.

Since the passage of Section 504 of the Vocational Rehabilitation Act in 1963, discrimination on the basis of a handicap is prohibited within the workplace and all educational and employment agencies receiving federal funding. This federal legislation specifically designates learning disabilities as a handicap.

Other federal legislations, such as The Education of All Handicap Children Act (PL 94-142) of 1975, and the Carl Perkins Vocational Education Act (PL 98-524) of 1984, have encouraged non-discrimination within elementary, secondary and postsecondary educational systems. As more children with mild, moderate, and severe disabilities have entered special education programs within the public schools, increasing numbers of young adults are graduating from high school and seek the preparation for work in vocational education programs within the community college system.

Attitudinal barriers, however, prevent learning disabled adult participation in vocational education programs and future employment. Recruitment and admissions, curriculum, and evaluational procedures prove to be challenges to student retention and school completion. Employers complain that learning disabled students are unequipped with the essential skills necessary to enter the workforce.

What is a learning disability and how is it determined?

When the term "learning disability" was first coined by Kirk and Gallagher in 1979, it was defined as a disability that only occurred among children. Since then several individuals have attempted to re-define this handicap to include a broader scope of etiologies and severity ranges. The National Advisory Committee on Handicapped Children (1968) however, is the most widely accepted and has since been adapted into the Education for All Handicapped Children Act (PL 94-142). It (PL 94-142) defines a learning disability as:

> "Children with specific learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage."

Due to the general nature of the Federal definition, all states have operationalized appropriate criteria in order to identify learning disabled students. The Iowa Department of Education in its Rules of Special Education (Department of Education, 1985a) uses the following definition and criteria for the identification of a learning disability:

"A learning disability is the inclusive term denoting the inability to learn efficiently, in keeping with one's potential, when presented with the instructional approaches of the general education curriculum. The inability to learn efficiently is manifested as a disability in an individual's general intellectual functioning and achievement in one or more of the following areas: School readiness, basic reading skills, reading skills, reading comprehension, mathematical reasoning, written expressions, and listening comprehension. A learning disability is not primarily the result of sensory or physical impairment, mental disabilities, behavior disorders, cultural or language differences, environmental disadvantage or a history of inconsistent educational programming. The following criteria shall be applied in identifying a pupil as learning disabled and in need of special education services:

1. Hearing sensitivity must be within normal limits unless the hearing loss is temporary or not educationally relevant.

2. Vision must be within normal limits after correction unless impairment is temporary or educationally relevant.

3. Intellectual functioning must be at or above one standard deviation below the mean as measured by an instrument recognized as a valid measure of intellectual functioning. A total of full-scale scores shall be used in applying the intellectual criterion.

4. A severe discrepancy between current achievement and intellectual functioning exists when a pupil has been provided with learning experiences that are appropriate for the pupil's age and ability level, and obtained scores in the achievement area(s) of concern are below the pupil's present grade placement and are more than one standard deviation below the mean on the distribution of achievement scores.

In establishing the difference of one standard deviation, the effects of regression toward the mean and errors of measurement must be applied.

5. The severe discrepancy between achievement and intellectual functioning must not be primarily attributed to behavior disorders, chronic health problems, physical impairment, environmental disadvantages, cultural or language differences, or a history of inconsistent educational programs."

Difficulties with this definition and criteria are immediately apparent. First, the definition applies only to those institutions that have a general education program. Taken literally, students enrolled in vocational education programs can be excluded from special education services.

Secondly, criteria for the determination of this disability is based on a discrepancy model. Although used in many other states as a measure of determination of a learning disability, Hill (1984, pp. 11-15) cites several studies (Rutter, 1978; Berk, 1981 and 1984; Burns, 1982; and Forness, Sinclair and Gutherie, 1983) that question the method of determining a "significant" degree of under-achievement.

State and national attitudes toward remedial/developmental education

In response to the First in the Nation in Education (FINE) report released in October 1985, the Task Force on Remedial Programs was appointed by the Iowa State Board of Public Instruction and the Iowa State Board of Regents to investigate "coordination, non-duplication, and maximum use of limited state resources" (Urban, 1984, p. 1). In this final report the area community college subcommittee and the Task Force endorse the recommendation of the FINE report indicating that "those students in need of remediation may be better and efficiently served at the area college level than at the Regents' institutions" (Urban, 1984, p. 3).

Purpose of the Study

When the definition, origin and method of assessment of a handicapping condition is questionable, difficulties will manifest in all areas of the educational structure: students services, curriculum development, classroom instruction, cost/benefit analysis, evaluation, and so on. Inspite of the discrepancies of identifying learning disabled students as stated above, community colleges have been cited by both the FINE report and the Task Force on Remedial Education (see Task Force on Remedial Education in

Appendix A) as the postsecondary institution that can most efficiently serve this population. This study will investigate the progress Iowa's community colleges have made, during the past decade, to educate their learning disabled students; and to identify key areas to begin strategic planning and development. It examines the progress Iowa's community colleges have made since the 1970s and 1980s handicapped legislative Acts and projects future planning strategies.

Statement of the Problem

Specifically, there are eight reasons to investigate community colleges' capacity to meet the programming needs of learning disabled students: (1) research on learning disabled adults has only recently been found in the literature; (2) America as a society wishes to educate learning disabled adults; (3) the needs of the learning disabled should be scientifically assessed; (4) instructional strategies should be based on the assessed needs; (5) needs should be correlated with adult development theories; (6) current vocational education funding rests on the previously identified number and severity of handicapped students enrolled; (7) there is a lack of expertise among community college personnel which prohibit appropriate

program planning; and (8) graduating high school learning disabled students should know that community colleges want and can meet their educational needs.

Objectives of the Study

General objective

This researcher believes that some community college personnel would have difficulty carrying out the mandates outlined in the Carl Perkins Vocational Education Act for several reasons: (1) general limitations of previous legislations, (2) current knowledge and information relating learning disabilities for adult populations have been confined to areas outside of education, (3) limited research has been conducted on learning disabled adult populations, and (4) opportunities for professional development and data sharing among community college staff has been limited due to insufficient funding and scheduling difficulties.

This research study will provide educational administrators and appropriate community agencies insights and information necessary to strategically plan for meeting the educational needs of learning disabled adults.

Specific objectives

1. To investigate and describe methods of access of learning disabled students in Iowa's community colleges.
2. To investigate and describe current curriculum needs of learning disabled students in Iowa's community college.
3. To investigate and describe current student services available to learning disabled students in Iowa's community colleges.
4. To analyze currently employed methods of access, curriculum, and student services found in each college that may uncover "gaps" in the educational programming of learning disabled adults.
5. To inform educational administrators and appropriate community agencies of "gaps" found within their educational structure as it pertains to the educational needs of the learning disabled adult.
6. To investigate and describe budgetary problems that may prohibit the implementation of curriculum plans.

Research Questions

1. What are the perceived educational needs of college age learning disabled students?
2. How do community colleges currently meet the educational needs of learning disabled students?

   A. What commonalities of mission and philosophy are found in Iowa's community colleges? B. How are learning disabled students accessed within individual community colleges? C. What and how are courses, programs, and activities are incorporated into the curriculum for learning disabled students? D. Is the current funding procedure adequate for the curriculum adjustments necessary for educating learning disabled students? E. Is the faculty sensitive to the needs of learning disabled students?

3. What will the future needs of Iowa's community colleges be when designing programs for learning disabled students?

The information obtained will be useful to Iowa's Department of Education, community college personnel, and community agencies interested in educational programming for learning disabled adults. A study of the nature and scope of learning disabilities as it exists in adults will assist:

1. community college personnel to strategically plan the educational needs of learning disabled students,

2. community college personnel to assess future institutional needs for implementing their strategic plan; i.e., manpower and budgeting
3. the Department of Education to decide which programs are most worthy of receiving Carl Perkins Vocational Education funding.

Assumptions of the Study

For the purposes of this study, the following assumptions are made:

1. the special needs coordinator was the key individual from whom information was collected concerning remedial/developmental education services found in community colleges.
2. the learning resource center director was the key individual from whom information was collected concerning the adult basic education services found in community colleges.
3. the counselor was the key individual from whom information was collected concerning the counseling needs found in community colleges.
4. the survey participants honestly reported the extent of the student services provided at the institution and their personal information.

5. the type and extent of student services provided to learning disabled adults by Iowa's community colleges vary; and that this variation can be detected through the use of a mailed survey.
6. the services provided to learning disabled adults enrolled in Iowa's community colleges can be collectively and individually described using statistical procedures.
7. the scaled values applied to this study are appropriate and valid.
8. the community colleges within the State of Iowa are operating within the confines of the State Plan and federal regulations.
9. the information provided by the participants pertain to English speaking, United States citizens who have been identified as having a learning disability.
10. the information provided by the participants pertain to learning disabled students enrolled into their college.
11. the participants used in this study are in agreement that learning disabilities exist and that it is a handicapping condition which should be addressed in the community colleges.

12. the participants used in this study are in agreement that remedial/developmental education should be addressed in area community colleges.

Limitations of the Study

The findings of this study are limited to the following:

1. The findings of this study are limited to the community colleges found in the State of Iowa. It is not the intention of this study to generalize the findings to the nation.
2. This study is not intended to evaluate the procedures, processes, or programs currently existing in Iowa's community colleges.
3. This study is limited to students identified as learning disabled, which falls into the category of handicapped.
4. This study does not include learning disabilities as it exists in other countries.
5. This study is limited to English speaking, United States citizens within the State of Iowa.
6. This study is investigating procedures used for learning disabled students enrolled(ing) in vocational education programs.

Definition of Terms

The following terms are listed to aid in understanding the vocabulary frequently used in this study.

1. ACCOMMODATION - the provision of learning experiences that contribute to the student's ability to relate and to fuse self-perceptions with evolving personal goals; correlate occupational knowledge and the understanding of related work habits, attitudes,and values with their personal goals; understand the decision-making process and the consequence of those decisions; and recognize the influences of cultural/societal values and the impact of economic/technological advances (Department of Education, 1986-1988, p. 8).
2. ADULT SUPPLEMENTARY - instructional course(s) for persons who are seeking to enter or have already entered the labor market and who wish to obtain skills necessary for retraining, upgrading or advancing in their occupation (Department of Education, 1986-1988, p. 9).
3. APPRENTICESHIP - a program registered with the Department of Labor or the State apprenticeship agency in accordance with the Act of August 16,

1937, known as the National Apprenticeship Act, which is conducted or sponsored by an employer, a group of employers, or a joint apprenticeship committee representing both employers and labor, and which contains all terms and conditions for the qualification, recruitment, selection, employment, and training of apprentices (Department of Education, 1986-1988, p. 9).

4. AREA COMMUNITY COLLEGE - a community college established and operated by a merged area (Code of Iowa, Chapter 280A, 1985).
5. AREA VOCATIONAL SCHOOL - a vocational school established and operated by a merged area (Code of Iowa, Chapter 280A, 1985).
6. AVERAGE PER PUPIL EXPENDITURE - the aggregate current expenditure, during the second fiscal year preceding the fiscal year for which the computation is made of all local educational agencies in the United States (fifty States including Washington, D.C.), plus any direct expenditures by the State for operation of such agencies (without regard to the source of funds from which either of such expenditures are made), divided by the aggregate number of children in

average daily attendance to whom such agencies provided free public education during such preceding year (Federal Register, 1977a).

7. AWARENESS - the provision of learning experiences through which the student becomes cognizant of personal attributes and attitudes, economic and technological influences; work roles and responsibilities that apply to a variety of occupational areas and occupational; and develops an appreciation for self, the worker, and the word of work (Department of Education,1986-1988, p. 8).
8. CAREER GUIDANCE AND COUNSELING - those programs (a) which pertain to the body of subject matter and related techniques and methods organized for the development in individuals of career awareness, career planning, career decision making, placement skills, knowledge and understanding of local, state, and national occupational, education, and labor market needs, trends, and opportunities, and (b) which assist them in making and implementing informed educational and occupational choices (Department of Education, 1986-1988, p. 11).

9. COMMUNITY COLLEGE - a publicly supported school which offers two years of liberal arts, pre-professional, or other instruction partially fulfilling the requirements for a baccalaureate degree but which does not confer any baccalaureate degree and which offers in whole or impart the curriculum of a vocational school (Code of Iowa, Chapter 280a, 1985).
10. COOPERATIVE EDUCATION - method of instruction of vocational education for individuals who, through written cooperative arrangements between the school and employers, receive instruction, including required academic courses and related vocational instruction by alternation of study in school with a job in any occupational field, but the two experiences must be planned and supervised by the school and employers so that each contributes to the student's education and to his or her employability. Work periods and school attendance may be on alternate half days, full days, weeks, or other periods of time in fulfilling the cooperative program (Department of Education, 1986-1988, p. 9).

11. DISADVANTAGED - individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. Such terms include individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from secondary schools (Department of Education, 1986-1988, p. 10).

12. EMOTIONAL DISABILITY - those students who demonstrate inappropriate behaviors that are significantly interfering with the learning process. These behaviors are unexpected or uncontrolled and often have no immediately identifiable cause or reason (Department of Education, 1985a)

13. EQUAL EMPLOYMENT OPPORTUNITY - means that everyone has an equal opportunity in employment based on his/her qualification. Federal and state legislation provide that no one can be discriminated against in employment due to race, sex, color, religion, age, national origin or

handicap. It also applies to all areas of employment, including hiring, training, promotions, job assignments, benefits, discipline, and discharge.

14. EVALUATION - of measuring progress of programs and/or students.

15. EXPANDED PROGRAMS - a major expansion of a State Board approved instructional program, (additional section) conducted by a local education agency to server additional students at an existing site or a new site (Department of Education, 1986-1988, p. 9).

16. EXPLORATORY - the provision of learning experiences through which the student continues to develop and assess personal characteristics, values, interests and potentials in relation to a wide range of occupations; develops an understanding of the nature of change with the work force, the contribution of the individual to work in society, benefits of paid and non-paid work, and the need for the development of life skills including general employability and specific job skills (Department of Education, 1986-1988, p. 8).

17. HANDICAPPED - when applied to individuals, means individuals who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons, or persons with specific learning disabilities, who by reason thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance (Department of Education, 1986-1988, p. 10).
18. IMPROVED PROGRAMS - a major improvement to a State Board approved instructional program; for example, a major curriculum change or a major equipment purchase which results in an instructional program that more adequately meets the needs of students and the labor market of the State (Department of Education, 1986-1988, p. 9).
19. JOINTLY ADMINISTERED PROGRAMS - two or more educational agencies having an agreement to administer instructional program(s) and supportive services to serve students by sharing educational personnel, curriculum, facilities,

and other resources important to educational achievement (Department of Education, 1986-1988, p. 9).

20. JUNIOR COLLEGE - school which offers as its curriculum or part of its curriculum two years of liberal arts, preprofessional, or other instruction partially fulfilling the requirements for baccalaureate degree but which does not confer any baccalaureate degree (Code of Iowa, Chapter 280a, 1985).

21. MENTAL RETARDATION - those individuals who do not learn as readily as others of the same chronological age. They are unable to make complicated generalizations and are usually unable to learn material incidentally without instruction. Generally, they need a systematically presented instruction. According to the American Association on Mental Deficiency, mental retardation is classified according to Intellectual Quotient (IQ) based on the standard score obtained by the individual on a reliable test of intelligence (Department of Education, 1985a)

22. MERGED AREA - an area where two or more county schools systems or parts thereof merge resources establish and operate a vocational school or a community college in the manner provided in this chapter (Code of Iowa, Chapter 280A, 1985).
23. MODIFIED PROGRAMS - the modification of a local education agency program to enable it to meet State Board approval standards (Department of Education, 1986-1988, p. 9).
24. NEW PROGRAMS - an instructional program initiated by local education agency and which meets State Board approval standards. The program is either new to the attendance center or site or has not been offered by the agency for three previous years. New programs may be similar to other previously approved ongoing programs offered by a local education agency but new to an attendance center. Programs may receive funding for two consecutive years (Department of Education, 1986-1988, p. 9).
25. ONGOING - a State Board approved instructional program administered by a local education agency in accordance with the Board's approval standards (Department of Education, 1986-1988, p. 9).

26. PER CAPITA INCOME - total personal income for such State in the calendar year ending in such fiscal year divided by the population of the State and of all such States.
27. PREPARATORY - programs through which students develop general employability and specific job skills (Department of Education, 1986-1988, p. 8).
28. PRE-VOCATIONAL EDUCATION - instructional programs and services that provide youth and adults with learning experiences that enable them to make informed career decisions and develop general employability skills that provide a foundation for the successful development of specific job skills. Pre-vocational education includes exploratory instructional programs and awareness and accommodation activities (Department of Education, 1986-1988, p. 8).
29. PROGRAM OF INSTRUCTION - A planned sequence of courses, services, or other vocational education activities, for students, specifically associated with a six digit or more Classification of Instructional Programs (CIP) number, designed to meet a specific vocational objective(s) (Department of Education, 1086-1988, p. 10).

30. REMEDIAL EDUCATION - remedial education constitutes an educational experience, designed to correct an academic deficiency, required of some students, for which no academic credit is awarded (Task Force of Remedial Programs, 1986, p. 1).

31. TECHNICAL SCHOOLS - 1) A generalized term used to define a type of education that prepares the student for an occupation or career as either a semi-skilled worker, skilled worker, or technician with the ultimate goal of being gainfully employed. 2) A two-four year post-secondary institution designed for the instruction of technical skills using a combination of applied science and popular knowledge. These schools generally focus on one specific subject areas (Code of Iowa, Chapter 280A, 1985).

32. TRANSITION - an outcome-oriented process encompassing a broad array of services and experiences that lead to employment. Transition is a period that includes high school, the point of graduation, additional postsecondary education or adult services, and the initial years of employment (Will, 1985).

33. VECTOR - identified by Chickering as being a dimension of development in the student's pursuit of identify formation.

34. VOCATIONAL EDUCATION - a publicly supported school which offers as its curriculum, technical education, training, or retraining available to persons who have completed or left high school and are preparing to enter the labor market; persons who are attending high school who will benefit from such education or training available in the local high schools; persons who have entered the labor market but are in need of upgrading or learning skills; and persons who due to academic, socioeconomic, or other handicaps are prevented from succeeding in the regular vocational or technical education programs (Department of Education, 1986-1988).

35. VOCATIONAL STUDENT ORGANIZATION - those organizations for individuals enrolled in approved vocational education programs which engage in activities as an integral part of the instructional program. Such organizations may have State and national units which aggregate the work and purposes of instruction in approved

vocational education at the local level (Iowa State Plan, 1986-1988, p. 12).

REVIEW OF THE LITERATURE

Introduction

Educating learning disabled students is a complicated process which can and often does entail the expertise of many disciplines. Due to the vast nature of this issue, this review of the literature is subdivided into four sections which attempts to synthesize the information and explain the challenges faced by community college administrators when planning for the educational needs of this population.

The first section of the review of the literature discusses federal legislation that mandates non-discrimination on the basis of a handicap and the regulations promulgating required procedures used to enforce the legislation. Four specific federal legislative Acts are highlighted in this section: (1) Rehabilitation Act of 1973 and its amendments, (2) Education for All Handicapped Children Act of 1975, (3) Vocational Education Act of 1963 and its amendments, and (4) Carl D. Perkins Vocational Education Act of 1984. The regulations set by these legislative Acts and their corresponding methods of allocating funds can and often do adversely effect the educational programming planned by community colleges.

Social/educational reform movements of the 1970s and 1980s are discussed in the second section of the review of the literature. The integration of politics, economics, and public opinion has influenced educational changes in curriculum, teaching and learning styles, teaching and learning strategies, and ultimately the manner in which students view themselves and their role in society.

Each of the four social/educational reform movements discussed have been labeled a federal priority by the United States Office of Education and will emphasize the goals, objectives, and strategies for implementation. They are (1) career/vocational education (2) mainstreaming and transition, (3) the push for excellence and "back to basics" philosophies, and (4) adult education.

The third section of the review of the literature canvasses characteristics of the learning disabled adult. It begins with a description of this handicapping condition and continues to student educational and vocational needs from the perspective of educators, employers, and the students themselves.

The fourth and last section reviews learning disabilities from an adult development, counseling and learning theory perspective.

Federal and State Legislation

The Civil Rights Act of 1964 was the first federally legislative Act to promote the integration of all individuals into the mainstream of society. Attention was focused then on racial minorities, but a growing awareness of other segments of society similarly not receiving all of the opportunities and benefits to which they were entitled fostered the development of several additional legislations promoting non-discrimination on the basis of religion, national origin, sex, age, and/or handicap.

Four Federal legislations specifically addressing non-discrimination on the basis of a handicap have significantly impacted educational programming. They are: (1) the Rehabilitation Act; (2) the Education for All Handicapped Children Act; (3) the Vocational Education Act; and (4) the Carl Perkins Vocational Education Act. A careful review of the mandates of each of these Acts will reveal the challenges and obstacles toward appropriate service delivery encountered by community college administrators during implementation. Major obstacles toward service delivery must include (1) eligibility requirements, (2) access of handicapped individuals into postsecondary institutions and into respective academic programs, (3) the determination of the duration of enrollment in the program, and (4) funding

for special needs programs specifically matching and excess cost stipulations.

The Rehabilitation Act

The first federal civil rights law protecting the rights of handicapped persons was enacted in 1963. The Rehabilitation Act (PL 93-112) mandates the removal of physical and attitudinal barriers that adversely affect handicapped persons. Section 504 of this Act states: "No otherwise qualified handicapped individual in the United States, as defined in section 7(6) shall, solely by reason of the handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Since "federal financial assistance" applies to either assistance given to the institution or directly to the individual, this law applies to almost all colleges and universities in America.

In this same statute, Congress defined the term "handicapped individual" solely with relationship to employment. Section 7(6) of this law defines a "handicapped individual" as "any individual who (a) has a physical or mental disability which for such individual constitutes or results in substantial handicap to employment and (b) can reasonably by expected to benefit in terms of employability

from vocational rehabilitation services...". The following year, Congress amended this definition to include areas other than employment which confirmed the government's commitment to dispel discrimination of all individuals on the basis of a handicap. Its 1977 amendment, PL 93-516, defines a "handicapped individual" as, "any individual who (i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such and impairment, or (iii) is regarded as having such an impairment". The term "major life activities" include "caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working". Although this law addresses all handicaps, learning disabilities has been specifically identified as a handicap within this Act.

To insure non-discrimination, written regulations specify institutional responsibilities in the areas of building accessibility, program accessibility, and methods to eliminate discrimination. Those areas specifically affecting learning disabled postsecondary students which present major obstacles to compliance are (1) identification and assessment, (2) the use of auxiliary aids, and (3) the concept of reasonable accommodation.

Identification and assessment Problems with identification and assessment stem from discrepancies within the field of learning disabilities. Rothstein (1986) states that the determination of "whether a person is actually learning disabled [and the question of] who is responsible for making that assessment..." has not been adequately determined. But, as increased numbers of students identified as learning disabled in elementary and secondary school (through the Education For All Handicapped Children Act) enter college, this problem has been facilitated, but not resolved.

Knowledge of a student's disability prior to admission only accounts for a small percentage of the handicapped student population. Evidence reveals that a high percentage of students do not discover that they have a handicap until they enter college.

"In fact, students with learning disabilities are the fastest growing group of students with disabilities on campus. Of the 7.7 percent of all freshmen on American campuses who are disabled, 14.3 percent of that group are learning disabled. In 1978 only 4.7 percent of disabled freshmen were learning disabled" (Rothstein, 1986, p. 236).

If the college does not have prior knowledge of the learning disability, the problems of "when the university

must know of the learning disability before it can be accused of discrimination" and "adverse action" emerges (Rothstein, 1986, p. 236). The term "adverse action" refers to legal actions initiated by the student when the student feels that he/she may have been discriminated against. For example, when a student has been placed on academic probation or has been rejected for re-admission.

Funding is associated with the second challenge - assessment. With the excessive cost of assessment emerges the issue of delineating where the responsibility lies for assessing an undocumented learning disability - the college or the student. Although legally unanswered, Rothstein (1986) postulates that "forthcoming answers will probably be based upon the normal services of the campus health service program. If psychological assessment is provided through the campus health program, then assessment of a student for learning disabilities should be part of the services available to the student. If however, such services are not available on a routine basis, the cost and burden of providing the documentation will be borne by the student. This issue may eventually be litigated because the cost of making these assessments is substantial" (Rothstein, 1986, p. 236).

The use of auxiliary aids The 1977 amendments to the Rehabilitation Act of 1973 mandate postsecondary institutions to assume responsibility of ensuring that auxiliary aids, necessary for effective participation in education programs, are available to learning disabled students (Federal Register, 1977b, pp. 22676-22702). Although the learning disabled student may not necessitate the stereotypic aids of the physically handicapped student, such as interpreters, books written in braille, or readers, institutions are obligated to supply such everyday instruments as rulers, calculators, tape recorders, typewriters, and/or dictionaries, which may be crucial to the educational success of learning disabled students. Institutions are, however, exempt from the responsibility of providing auxiliary aids and devises for the student's personal use or study.

Challenges emerge when institutions try to delineate between auxiliary aids necessary for student success in educational programs which they are obligated to provide and aids for personal use for which institutions are not obligated to provide. Currently this problem has not been addressed by the Department of Education.

Reasonable accommodations The third major obstacle to compliance pertains to practices and procedures that

prohibit access into the college and educational programs such as admission and assessment procedures.

Admission As explained in 1977 amendment, "qualified handicapped" students must have access to all programs and activities. To ensure non-discrimination, postsecondary institutions may place no restriction on the number of handicapped students admitted into the institution, may make no pre-admission inquiries regarding the existence of a handicap, must make all recruitment efforts available to handicapped students, and may use no test or admissions criterion that would otherwise have an adverse effect on the admittance of the handicapped student (Federal Register, 1977b, pp. 22676-22702).

The open-door/open-admissions policy of Iowa's community colleges prohibit the denial of admission when there is a possibility of success in the educational program of the student's choice. If success in the chosen major is questionable the student must be advised to enroll into remedial courses or career counseling that would enlighten the student to careers in which success is more assurable. In this instance, interest and ability testing is advised (Section 280a of the Code of Iowa, 1985).

Assessment Although scorned as being biased (Educational Testing Service, 1988), tests are still

generally considered by educators to be the most efficient method of measuring one's skills, abilities, and interests. Tests are frequently used to determine eligibility for college admission. Decisions are frequently based on obtained standardized aptitude and achievement test scores such as the American College Test (ACT) and Scholastic Aptitude Test (SAT) which are frequently used to indicate the ability of the student to benefit from college instruction. Scores obtained from these standardized tests significantly correlate with intelligence test scores and college GPAs (Martin & Rudolf, 1972). But because of the test's reliance on reading ability and timed responses, learning disabled students, having difficulty with reading, frequently obtain low scores and are thus perceived as unintelligent and having low aptitude for college work. Several research studies (Educational Testing Service, 1988) concur that if given additional time, students with learning disabilities can improve their test scores. Although, the amount of additional time necessary is still undetermined.

Testing services, however, are not compelled to comply with federal regulations since they do not receive federal assistance. Because of their close affiliation with colleges and universities that must comply, testing services are responsive to their needs. For example, small group

testing dates have been added to the testing schedule to meet the individualized testing needs of handicapped students (increased time for test completion, readers, typewriters, cassette and/or computer versions, calculators, rulers etc.). Test results sent to the college for admission purposes are "flagged" to indicate that the test has been taken under special conditions (Educational Testing Service 1988; Rothstein, 1986). As of yet, the results of tests taken under these conditions have not been standardized.

Accommodations also involve instructional or classroom competency testing. This regulation mandates testing modifications such as: additional testing time, the use of readers, permission to take a test orally, and the allowance of the student to use auxiliary aids (typewriters, tape recorders, calculators, and rulers).

Curriculum modifications Curriculum modifications may entail using different teaching methods, accommodating the students learning style, making use of alternative examination techniques, modifications of class schedules, changes in degree requirements, and providing laboratory/internship experiences. All persons involved with the student must become aware of the identified needed special accommodations and must adequately provide the

required services (Federal Register, 1977, p. 22676-22702); thus necessitating professional development activities for both administrators and faculty. Unfortunately, in-service development of administrators (Hodgkinson, 1981) as well as faculty (Lindquist, 1981) has not kept pace with these initiatives.

These restrictions bring to fore the additional question of how student services administrators could plan the programs necessary for the undocumented learning disabled student's education. One method is the recognition of alternative teaching and learning styles. The most serious problem encountered by postsecondary institutions was identified in the May 1977 issue of the Federal Register --the lack of expertise. With the assistance of the Higher Education and the Handicapped (HEATH) Project, workshops, publications, and consultant training were made available to colleges and universities. The administrative position, Special Needs Coordinators, is a direct result of HEATH's efforts. Unfortunately, the lack of expertise still persists today (Lindquist, 1981; Hodgkinson, 1981; Phelps, 1980).

Summary

Although the enrollment of handicapped students in community colleges is increasing, the overall percentage of

enrollment is still relatively small. Many administrators are reluctant to modify instructional practices to accommodate handicapped student needs. Empathetic employee attitudes are essential to creating a barrier-free environment. Professional development activities to heighten staff awareness of learning disabilities are essential.

Education For All Handicapped Children Act (PL 94-142)

In November 1975, the 94th Congress of the United States enacted Public Law 94-142. The "Bill of Rights", as it is so nicknamed, establishes the Federal government's commitment to "a free and appropriate public education for all handicapped children", ages 3 to 21 (Brolin & Kokaska, 1979).

> "It is the purpose of this Act to assure that all Handicapped children have available to them, within the time periods specified...a free and appropriate public education which emphasizes special education and related services designed to meet their unique needs, to assure that the rights of the handicapped children and their parents or guardians are protected, to assist States and localities to provide for the education of all handicapped children, and to assess and assure the effectiveness of efforts to educate handicapped children" (Section 601[c] of the ACT).

Public Law 94-142 is unique among education legislation for two reasons. "First, it more clearly delineates the relationship between federal, state, and local agencies.

The state rather than the local agency is established as the primary target for federal oversight, with states having oversight responsibilities toward local education agencies. This linear monitoring relationship among the three levels of government has meant a change in roles for the federal agency as well as for several of the state agencies. Whereas previous interagency interaction were primarily supportive or assistance motivated, they now have to encompass the more formal aspects of assurances and accountability for funds. The Act is also unique in that it provides an unusual amount of detail regarding the activities that are to occur if agencies are to receive funds.

The Act specifies a set of procedures that must be followed in order to be sure that decisions regarding children are appropriate. Four of these procedures are central to the Act: assessment procedures, placement procedures, programming procedures, and due process (Kennedy, 1978).

The Act supports education for handicapped children with an entitlement formula by which the Federal government provides a gradually escalating formula of excess cost based on the National Average Per Pupil Expenditure in public elementary and secondary schools times the number of

handicapped students between three and twenty-one years of age being served by the local educational agency. A ceiling of "no more than 12% of the number of all children ages 5 to 17, inclusive, in each state" can be identified as having a handicap and "no more than one-sixth of the total percent eligible may have a learning disability" (Section 611 (5) [A] PL 94- 142). Thus ensuring adequate funding for all students.

Amendment to PL 94-142 Governmental commitment to handicapped children until the age of 21 reveal statistics of unemployment rates of special education high school graduates. These statistics prompted Congress to address the issue of transition of persons with disabilities from school to working life as follows:

> "...the subcommittee [on the handicapped] recognizes the overwhelming paucity of effective programming for these handicapped youth, which eventually accounts for unnecessarily large numbers of handicapped adults who become unemployed and therefore dependent on society. These youth historically have not been adequately prepared for the changes and demands of life after high school. In addition, few, if any, are able to access or appropriately use traditional transitional services. Few services have been designed to assist handicapped young people in their efforts to enter the labor force or attain their goals of becoming self-sufficient adults and contributing members to our society." (Education for Handicapped Children [Amendment] Section 626, PL 98-199).

Since Section 626 of PL 98-199, (amendment for the Education for Handicapped Children) the concept of transition clearly emerged as a federal priority. Several transition models has surfaced emphasizing school-to-work transitions. Three popular proposals by Madeleine Will (1985) of the Office of Special Education and Rehabilitation Services (OSERS), the Rehabilitation Research and Training Center (1985), and Brolin (1985) assist in providing a clear and comprehensive look this complicated issue.

Vocational Education Acts of 1963, 1968, and 1976

Vocational education has not changed drastically since the Smith-Hughes Act of 1917, which provided an annual grant to the states to promote vocational programs in agriculture, trade and industrial education, and home economics. Societal complaints alleging that vocational education programs lag behind current trends of an increasingly more complex society, hence, promoting high unemployment rates of the unskilled and untrained, lead to the development of PL 99-210 - the Vocational Education Act (VEA) of 1963.

This landmark legislation was designed to not only maintain several categorical programs but also to give states more freedom in pursuing their own vocational education needs. It also authorized "vocational education for persons who have academic, socioeconomic, or other

handicaps that prevent them from succeeding in regular vocational education program" (Section 4[a] and [b]). In addition 10 percent of each state's allotment was earmarked for research, developmental, training, and pilot programs "to meet the special vocational education needs of youths, particularly youths in economically depressed communities who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular vocational education programs" (Section 4[a]).

Legislative history (H. R. Rep. No 98-140; Sen. Rep. No. 98-191) indicates that much of the federally allocated funds provided by the 1963 Act, were not directed to special needs populations as regulations required. Taking this into consideration, the 1968 amendments to the VEA (PL 90-576) required states to spend 15 percent of each state's allotments to be used for programs for the disadvantaged and that at least 10 percent of each state's allotment to be used for the handicapped (PL 90-576, Section 122).

House and Senate reports focused on the state's failure to (1) mainstream special needs students into regular classes and vocational education programs (H. R. Rep. No. 1085; Sen. Rep. No. 882), and (2) spend allotted funds on special needs populations. To ameliorate this situation, the Senate proposed that at least 10 percent of the allotted

funds for disadvantaged students stated in Section 102(a) be used to pay 50 percent of the cost of educating the special vocational education needs of handicapped persons (Section 110(a)). Consistency with PL 94-142 is required in Section 106(a) of this Act.

Considerable emphasis was also placed on evaluation, planning and accountability. The 1976 legislation mandated the inclusion of no fewer than community agencies, special interest groups and advocates as part of a comprehensive, integrated system of planning and evaluation.

Conflicting interpretations pertaining to matching and excess cost of the 1968 and 1976 amendments of the VEA led to the the development of the Carl Perkins Vocational Education Act of 1984.

Carl Perkins Vocational Education Act (PL 98-524)

As compliance became more complex and funding more scarce criticisms expressed by state and local education agencies that the government was trying to accomplish too much with too few resources was heard. In 1984, Congress passed the Carl D. Perkins Vocational Education Act, PL 98-524, to amend the Vocational Education Acts of 1963 and 1968, thus continuing the Federal government's commitment and contribution to vocational education through the year 1990. It incorporates the purposes of several previously

legislated Acts, such as the Rehabilitation Act, the Education for All Handicapped Children Act, the Job Training Partnership Act, the Adult Education Act, and others. (See Appendix A for the purpose of these Acts.)

The Perkins Act avails Federal financial assistance for expanding, improving, and updating vocational-technical education programs in secondary and postsecondary schools and community agencies. Targeted are the underserved and unserved populations (dislocated homemakers, incarcerated individuals, handicapped, disadvantaged, unemployed, and individuals needing training and/or retraining. Also noted are Native American Indians.

Public Law 98-524 became effective in Iowa in 1986. Existing vocational-technical education programs and future program planning in area community colleges has been and will be significantly impacted as a result of the enactment of this legislation. Major implications are directed to community college administrative imperatives. They are (1) distribution of federal funds, (2) population identification, and (3) mainstreaming and separate programs.

Implications for the distribution of federal funds

In prior educational legislation, federal funds were distributed to the state based on the total number of

students identified within the state. Modification of the funding formula written in this Act relies on allocation of available funds based on the separate totals of handicapped and disadvantaged students in each eligible recipient's individual institution. It states:

> "...50 percent shall be allocated on the basis of the relative number of handicapped students served in vocational education programs by each eligible recipient within the State in the fiscal year preceding the fiscal year for which the determination is made as compared to the total number of such individuals served by all eligible recipients within the State in such year..." (Section 203 [ii] of the Act).

One half of the allocated funds set aside for the handicapped is to be allocated to the eligible recipient on the basis of the prescribed formula as follows: Number of handicapped students served by the recipient in vocational programs in the previous year, divided by the total number of handicapped students served by all recipients in vocational education programs in the previous year (Iowa State Plan, 1986-1988).

Population identification According to this Act, "handicapped" is defined as "any individual who is mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, learning disabled, or other health impaired that is unable to succeed in vocational education programs

without special educational assistance or who requires a modified program," and it includes all secondary and postsecondary students who, (a) were previously identified in secondary school under the provisions of PL 94-142, [i.e., the learning disabled]; (b) do not qualify for special education services but who are in need of additional help to succeed in vocational education programs, (i.e., the developmental student); and (c) students who have a verifiable disability as provided via written psychological, medical, audiological, speech pathology, or rehabilitation reports at the secondary or postsecondary level, (i.e., vocational rehabilitation assessments).

As found with the Rehabilitation Act, postsecondary educators saw education for the handicapped to be primarily the responsibility of secondary schools, and have depended on them for purposes of identification. However, there is a good possibility that the adult vocational education student returning to college for training, retraining or to upgrade skills, or the high school dropout, has not been previously identified. Self-identification prior to instruction is unlikely especially for the learning disabled student who has experienced failure throughout his/her educational experience.

The criteria for the determination of a disability is explained within the State Plan and complies with PL 94-142, and Chapter 28 of the Iowa Department of Education, "School Age Special Education Programs". Community colleges also have the option of using criteria set by the Department of Vocational Rehabilitation Services to identify and verify handicapping conditions for their students. Yet, the problem persists of having the appropriate personnel to administer the assessments and analyze the resulting data. Nevertheless, student counts must be reported to the State Board of Education which would then be computed in the formula for distribution of funds.

Implications for mainstreaming and separate programs

Public Law 98-524 allows for the expenditure of funds for (a) separate programs for the handicapped, (b) support services for mainstreaming, and (c) modifications of vocational programs to assist handicapped students to educationally succeed. The approval procedure for separate programs versus support or modification for mainstreaming is different, however, from previous vocational education legislations.

To be approved for a separate program, the proposed program must exceed the average per pupil expenditure for regular services and activities provided for non-handicapped

students. Only those costs which exceed the costs of regular programs are eligible for State Board approval and funding.

As an alternative, community college personnel may wish to mainstream handicapped students into "regular" or existing programs. In this instance, personnel may use funds for supplemental or additional staff, new equipment, and/or materials and services essential to the participation and success of handicapped students in existing programs. Moreover, the use of funds for modifying material and/or aging or outdated equipment required by handicapped students is allowed.

Process of approval To be eligible for federal funds under this legislation, the recipient must complete an annual application for vocational education instructional programs, services and activities including guidance services and special services for the handicapped which they intend to implement during the next year.

All programs, services and activities for handicapped students requires matching funds in the form of cash. (In-kind services can only be used for the disadvantaged portion of the allocated funds.)

It is important to state at this time that each institution which applies for funding may not receive the

full amount required for their proposed program needs. In this instance, the community college must coordinate their efforts with local agencies and school districts by pooling available dollars and resources. This procedure is encouraged in the State Plan. And, since dollar allotments are based on the number of students served in each facility as opposed to a combined total for the state, a well-coordinated and accurate identification process at the local level is extremely important.

Iowa State Plan 1986-1988

According to each of the above Federal legislative Acts, the State of Iowa has developed a three year plan for the administration of vocational education within career education under the Vocational Education Act of 1963, the Carl Perkins Act, and the Code of Iowa, chapters 258 and 280a. Based upon a data foundation gathered utilizing three informational systems (members of the Bureau of Career Education gathered data indicating the unmet needs of specific target groups and labor supply/demand information; reference to portions of the Acts themselves and their corresponding State Plan Review checksheets; and comments and recommendations from public hearings and state educational agencies), this Plan seeks to

> "provide instructional programs and activities which contribute to the economic growth of the

> State, to provide equity of access to a diversity of quality vocational education programs, so that persons of all ages in all communities of Iowa, those in high school, those who have completed or discontinued their formal education, those who need to upgrade their skills or learn new ones, those with special education handicaps, and those residing in a merged area school district, will have ready access to vocational training or retraining which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training" (Department of Education, 1986-1988, p. 2).

Vocational education does not have a specific agency that guides and coordinates the activities therein. Instead, the delivery of services is provided under the authority of a ruling body decided upon by the State. In Iowa, under PL 98-524 and Chapter 258, 280a and 289 of the Code of Iowa vocational education is provided under the authority of the State Board of Education. This Board is the sole agency responsible for the supervision of the services provided and local programs operated under local Boards of Education by secondary school districts, merged area schools and area education agencies (such institutions are considered to be local education agencies). Table 1 illustrates this and other administrative agencies appointed to oversee the vocational education programs, services and activities within this state.

TABLE 1. State appointed administrative agencies to oversee vocational education programs

Federal	Administrative Entity	Local agency
Job Training Partnership Act	Dept. of Economic Development	Private Industry Councils (16)
Vocational Rehabilitation Act	Department of Education	Local education agencies
Education For The Handicapped Act	Department of Education	Local education agencies
Apprenticeship	Bureau of Apprenticeship and Training, U.S. Department of Labor	
Adult Education Act	Department of Education	Local education agencies
State		
Special Education	Department of Education	Local education agencies
State Foundation Act	Department of Education	Local education agencies (school districts)
State General Aid	Department of Education	Local education agencies (merged area colleges

The State Department of Education has a policy of equal access of all vocational education programs, services and

activities to persons that can benefit from them. The Rules of Special Education provide direction for specially designed career and vocational experiences for handicapped students and mainstreaming. State agency personnel are responsible for providing leadership and support. Section 2.4 of the State Plan describes the methods of administration for equal access.

State vocational aid and federal grants attained through the State follow the purposes found in the acts themselves (see Appendix A for summary of the purposes of each Act). And "every program or activity supported in whole or part by state or local funds which are used to match federal funds will comply (as specified in the annual application) with the same requirements and conditions as those which are supported with federal funds. In-kind contributions will not be used as part of the state's efforts to match federal funds nor will they be used to meet maintenance of effort requirements" (Department of Education, 1986-1988, Section 2.8).

Process for approval Each community college requesting assistance under this Act must submit an application (covering the same period as the State Plan and under the provisions stated in the State Plan) to the State Department of Education by October 31st. Reimbursement is

provided after programs and services are implemented and evaluations are submitted. Evaluations can be submitted, however, any time during the school year ending June 30th (Benton, 1985).

Summary of Federal Legislation

Since 1962, the term learning disabled has been identified as a viable handicapping condition. Legislation mandated fair treatment of the handicapped in employment and education. Changes in treatment was a battle gradually achieved. During the period from 1962 to 1972 only five legislative Acts addressed the learning disabled.

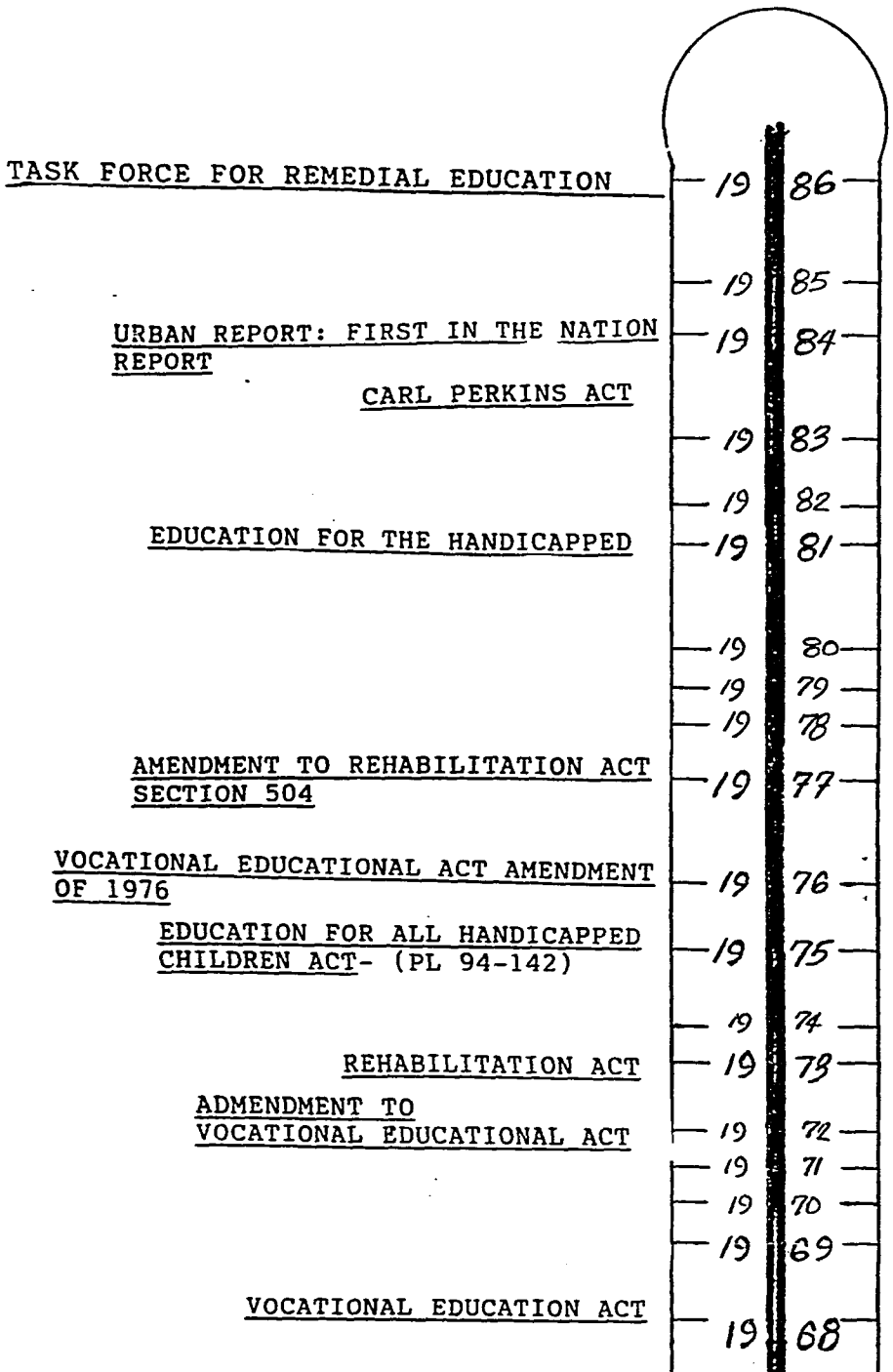
Promulagated by social pressure and mandated by Federal government, fair treatment of the handicapped in education rapidly changed with the passing of the Education for All handicapped Children Act (PL 94-142) in 1975, which addressed educational programming during the elementary and secondary school years. Realizing that this disability cannot be outgrown, educational programming for postsecondary institutions was initiated. And within the postsecondary system, the community college system was identified as being the educational setting most suitable for addressing the needs of students requiring remedial and or developmental educational assistance.

Methods of funding varied from year to year. Between the years 1975 to 1986, procedures for the allocation of funds for vocational education programming needs were ammended twice.

In all, the period from 1972 to 1986 - twelve years - seven legislative Acts and two educational reports have greatly impacted the education of the learning disabled. See Figure I.

Social/Reform Movements

The large number of legislations passed in the 1970s and 1980s emanated from societal beliefs that persons with handicaps were capable of being viable citizens and contributors to society. The past three decades have witnessed the beginnings of social/reform movements enforced by the United States Education Office (USEO) which paralleled legislative impacts on education. The first reform movement began in the 1970s when Sidney P. Marland Jr., then United States commissioner of education, announced that "career education" was a federal priority. The second movement was announced in 1984 by Madeleine Will who emphasized the need for "transition" (mainstreaming) of handicapped persons into the world of work. The third


TASK FORCE FOR REMEDIAL EDUCATION
19 86
19 85
URBAN REPORT: FIRST IN THE NATION REPORT
19 84
CARL PERKINS ACT
19 83
19 82
EDUCATION FOR THE HANDICAPPED
19 81
19 80
19 79
19 78
AMENDMENT TO REHABILITATION ACT SECTION 504
19 77
VOCATIONAL EDUCATIONAL ACT AMENDMENT OF 1976
19 76
EDUCATION FOR ALL HANDICAPPED CHILDREN ACT- (PL 94-142)
19 75
19 74
REHABILITATION ACT
19 73
ADMENDMENT TO VOCATIONAL EDUCATIONAL ACT
19 72
19 71
19 70
19 69
VOCATIONAL EDUCATION ACT
19 68
Iowa responded to the Urban Report; Agreed that community colleges are better able to address to the learning disabled.
Called for excellence in education; Task force identified educational problems and remedial education was for community colleges to oversee
Changed way funds were dispersed to post secondary vocational education for handicapped; Replaced Vocational Education Act.
Transitions to serve the local community through diverse educational programs, sources and opportunity for continuing education.
First to address post secondary education; Defines an handicapped individual; and Provides for "reasonable accommodations".
Focused on evaluation, planning and accountability
Provided for free and appropriate education for students 21 years old under; mainstreaming begins.
First civil rights law to protect the rights of the handicapped
Specifically stated that 10% of each states allotment had to be used for the handicapped
Earmarked funds for handicapped individuals

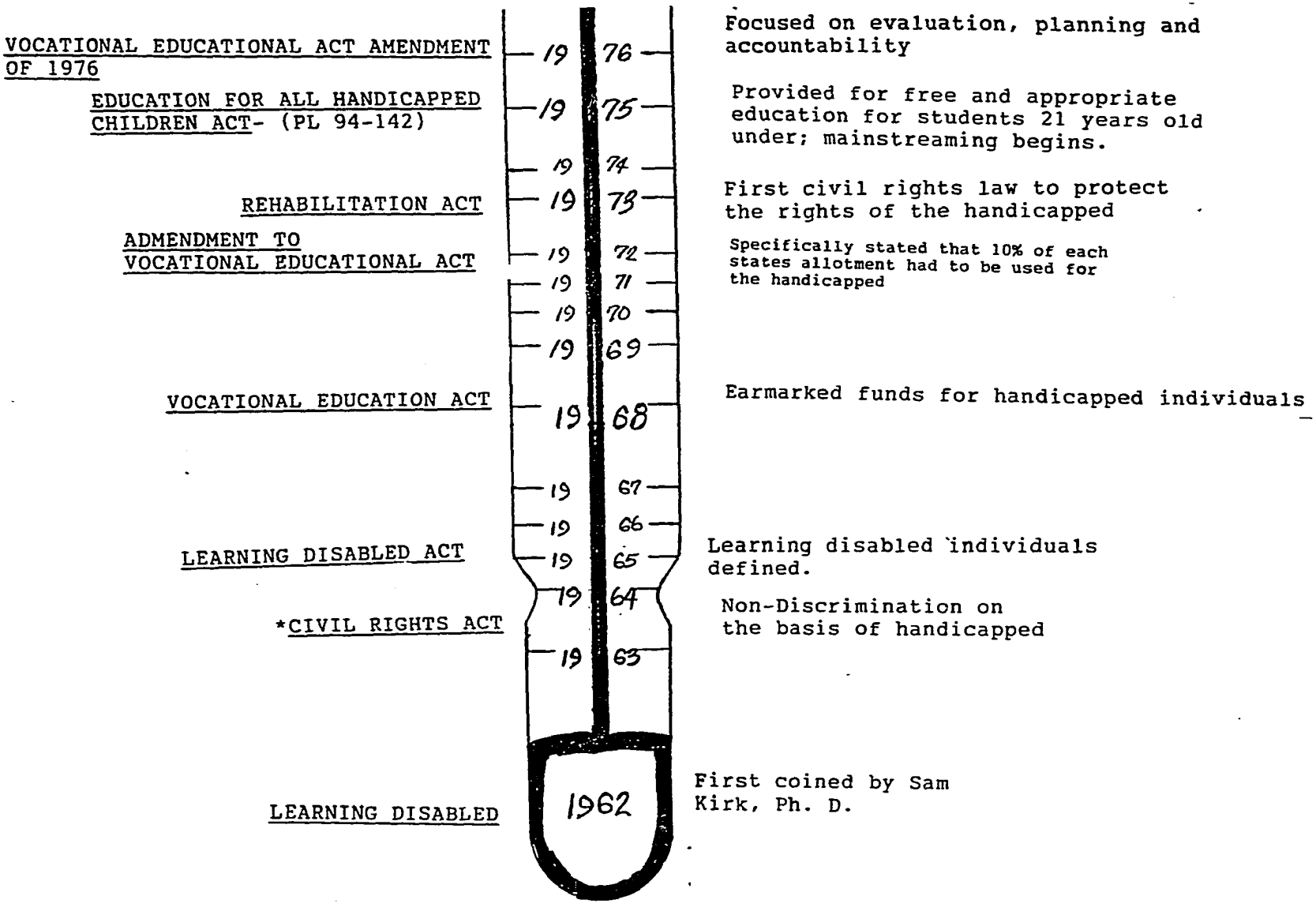


FIGURE 1. Timeline of Federal legislation

social/reform movement is the push for "excellence" in education where educators "go back to the basics". This federal priority lead to renewed emphasis on remedial/developmental education for all postsecondary students needing additional time to master basic academic skills. Each of these reform movements and their impact on the learning disabled student will be discussed separately.

Career/vocational education

Employment is the implied promise of American education, and work is the means by which Americans validate formal education (Text of Key Recommendation, 1988; Will, 1985). Yet, over the past thirty years, unemployment rates have escalated (U.S. Department of Labor, 1982). Increased numbers of students are dropping out of school as chagrin employers gripe about the lack of experience, employable skills, and interpersonal skills applicants possess (Parnell, 1985). Applicants plea for the opportunity to gain work experience. Yet, the classified section of the newspaper continues to display numerous job listings. The American economy is not competing favorably in the world economy. The value of the dollar continues to depreciate. The future of social security is in question and the number of welfare recipients increases. These and other political, social, and economic issues were the impetus for the

continued growth of vocational education and the development of the Vocational Education Act of 1963 and its amendments (Parnell, 1985).

The term "vocational education" generally refers to curricula that prepares individuals for semi-skilled or skilled work. However, over the years, the term has taken on a variety of meanings. In the 1800s and the beginning of the industrial revolution, society promulgated the opportunity to educate the masses in areas that would promote the economic growth of the community and society in general. The Morrill Act of 1863 provided an opportunity for all individuals to work with their hands as well as their minds. It included education in the areas of agriculture and manual trades. Federal funding provided through the Smith-Hughes Act of 1917 earmarked agriculture, trades and industry, and home economics as the vocational curricula essential to America's growth and prosperity and secondary schools and postsecondary institutions throughout the nation developed the components of its curricula.

But, the need to delineate secondary from postsecondary vocational education curricula caused a discontinuation of the use of the term by community colleges. "Semi-professional" typically referred to engineering technicians, general assistants, laboratory clinicians, and other people

in manufacturing, business, and service occupations. "Technical" implied preparation for work in scientific and industrial fields. "Occupational" education prepared individuals for employment in recognized, and new or emerging occupations; and it encompassed the greatest number of programs. It assisted individuals in making informed occupational choices and upgrading or updating skills individuals already possess in an occupational field.

In 1971, Sidney Marland, then United States commissioner of education, coined the term "career education" and deemed it a Federal priority. The term served as a philosophical umbrella encompassed two major components, vocational education and occupational education. But, career education's goals, objectives, and strategies for implementation were far more easy to describe than the phrase "career education" was to define. Attempts to define the term were numerous and varied, and tended to approach the definition according to situational or institutional purposes. In his book Marland, states his belief that the definition of "career education" should be left to the individual practitioner. "Career education is a very large and complex proposition carrying various levels of abstraction according to the setting. It has a definition for, say, a state department of education, a different level

of detail for a fourth grade teacher or a dean of faculty at a university. It is not important, furthermore, that any one individual, whether a government official or not, declare a definition intended to serve all situations".

Seven principles, however, guided the philosophy of career education:

- Career educators emphasize the need for increasing both the quality and quantity of vocational education and career guidance for everyone - each of which are important components of career education.
- Career education is considered a lifelong process and should begin in the early years of schooling.
- Career education is an educational philosophy based on the premise that subject matter taught should be associated with the functional application of career development.
- Strategies for instruction are based on a "hands-on" approach to learning with the intention of motivating the student to learn. (This philosophy can be traced to the teaching of John Dewey and Benjamin Franklin.)
- Career education emphasizes the belief that learning does not only take place in the classroom,

rather learning can occur in a variety of environments such as the home, the community and/or the job site. The concept of cooperative education, workstudy, and internships is a descendant of this philosophy.

- The philosophy of career education as a lifelong process mandates that schools provide placement services and follow-up for all of its students upon and after graduation.
- Career education seeks to provide all persons with entry-level, marketable skills or preparation for further advanced career training beyond the 12th grade.

Successive Federal legislations following this trend, broadened and merged the meanings of the types of vocational education thereby pronouncing them all synonymous to "career education". The 1968 amendments of the Vocational Education Act of 1963 include both secondary and postsecondary education programs as well as public and private institutions. It states:

> "The term vocational education means vocational or technical training or retraining which is given in schools or classes (including field of laboratory work and remedial or related academic and technical instruction incident thereto) under public supervision and control or under contract with a State Board or local education agency and is conducted as part of a program designed to prepare individuals for gainful employment as

> semi-skilled or skilled workers or technicians or sub-professionals in recognized occupations or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations which the Commissioner determines, and specifies by regulation to be generally considered professional or which requires a baccalaureate or higher degree."

The Education Amendments of 1972 specify the use of the phrase postsecondary occupational education to mean:

> "Education, training or retraining (and including guidance, counseling, and placement services) for persons sixteen years and older who have graduated from or left elementary or secondary school, conducted by an institution legally authorized to provide postsecondary education within a State, which is designed to prepare individuals for gainful employment as semi-skilled or skilled workers or technicians or sub-professionals in recognized occupations (including new and emerging occupations), or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations which the Commissioner determines, and specifies by regulation, to be generally considered professional or which require a baccalaureate or advanced degree."

These definitions clarify that vocational education, technical education, occupational education, and career education are synonymous, and that career guidance, job placement, occupational experience and instruction that facilitates occupational choice, training of teachers to work with handicapped students, and cooperation with community agencies are major components of these legislative Acts. Yet, upon examination of the daily workings of

postsecondary institutions and community agencies today, these major components "function as autonomous, pluralistic entities by identifying with a completely different set of goals and separate organizational structures" (Brolin, 1985, p. 14). Competition for diminishing financial resources and the lack of communication and coordination between and among vocational departments and community agencies has prevented many learning disabled adults from gaining access to appropriate training programs (NJCLD, 1987a, 1987b).

Unfortunately, even with governmental commitment to career/vocational education, public pressure, and current career education models, a shortage of skilled workers continues to exist in the American labor market. If the primary purpose of career education is to help connect information and knowledge with real-life experiences, a more comprehensive curriculum is needed to ensure successful employment--one that utilizes a "whole student approach" (Parnell, 1985; Hirschorn, 1988; Chickering, 1984; Brolin, 1985; Brolin & Kokaska, 1979). These authors, among others, propose two avenues to bring meaning to the curriculum. First they suggest that career education curricula direct more time to upper-level cognitive skills - problem solving, synthesis, analysis, and critical thinking. These skills will enable the student to generalize their already acquired

trade skills to other areas of employment. For "employers designate the ability to learn as the essential hallmark for the successful employee" (Parnell, 1985, p. 27).

Secondly, they suggest a greater emphasis on interpersonal and human relations skills. "More employees are dismissed because they cannot get along with others than for any other reason" (Parnell, 1985, p. 27).

The future of the American economy heavily relies upon career/vocational education (Parnell, 1985). Efforts should be directed to insuring that workers can cope with job shifts and changing employment demands.

Mainstreaming

The Civil Rights Act of 1964 mandates the integration of individuals into the general mainstream of American life. Upon further analysis of successive legislations, Congress discovered that integration into the mainstream of American life is a more complicated issue than once imagined. The term "mainstreaming" refers to the integration of handicapped students with non-handicapped students in the classroom and other activities to the maximum extent possible. With the passing of PL 94-142, the meaning of the term mainstreaming was advanced to the term "least restrictive environment" which brought much confusion. In April, 1976 the delegate assembly at the 54th Annual

International Convention of the Council for Exceptional Children adopted the following definition of mainstreaming as a statement of policy (Brolin & Kokaska, 1979, p. 13).

> "Mainstreaming is a belief which involves an educational placement procedure and process for exceptional children, based on the conviction that each such child should be educated in the least restrictive environment in which his educational and related needs can be satisfactorily provided. This concept recognizes that exceptional children have a wide range of special education needs, varying greatly in intensity and duration; that there is a recognized continuum of education settings which may, at a given time, be appropriate for an individual child's needs; that to the maximum extent appropriate, exceptional children should be educated with non-exceptional children; and that special classes, separate schooling or other removal of an exceptional child from education with non-exceptional children should occur only when the intensity of the child's special education and related needs is such that they cannot be satisfied in an environment including non-exceptional children, even with the provision of supplementary aids and services".

No longer could handicapped students be mainstreamed into classes or programs without proper support systems and a training plan called the Individualized Education Plan (IEP). The IEP requires a well thought out and laid out instructional plan which included the present level of performance, short and long term goals, and delivery systems specifically designed for that student. Using a team approach, this plan would be determined by many types of professionals who were integrated into the total educational

process. For secondary special needs students the IEP would include vocational and/or career education programming.

Public Law 94-142 and career education models focused on elementary and secondary school education. It was anticipated that upon graduation, students would make use of the community programs that serve adults and older adolescents if additional support was needed. Unfortunately, not all students had prior knowledge of such programs and oftentimes, the eligibility requirements and the length of time that the services could be provided were not comprehensive enough to meet the handicapped student's needs.

Since Section 626 of PL 98-199, (amendment for the Education for All Handicapped Children Act) the concept of transition clearly emerged as a federal priority. Several transition models emphasizing school-to-work transitions, proposed by such persons as Will (1985), Brolin (1985), and the Rehabilitation Research and Training Center (1985), assist in providing a clear and comprehensive look at this complicated issue. Because each state and almost every agency has designed its own transition model, the Federal model prepared by the Office of Special Education and Rehabilitation Services (OSERS) will be the only model discussed in this research.

"Community colleges and vocational-technical schools offer an age-appropriate, integrated context in which youth and young adults with disabilities can expand personal, social, academic, and vocational skills. While emerging postsecondary programs no doubt address the needs of all disability groups, OSERS is particularly concerned with stimulating research and program development for persons with learning disabilities and other mild educational handicaps" (Will, 1985, p. 7).

The transition process begins with a five part transition model that begins with the support services provided the student in high school and ultimately terminates with the successful employment of all handicapped students. It proposes three bridges or types of transition services over which students pass to enter the world of work and adulthood upon completion of high school (Will, 1985).

The first bridge, "Transition Without Special Services", is designed for disabled students and their non-disabled peers who can move from high school to work with little or no assistance. Students crossing this bridge make use of the adult services available to the general public. Special accommodations for disabled students are incorporated into the services.

The second bridge, "Transition with Time-Limited Services", is designed for disabled students needing temporary assistance to obtain employment. Students taking this path might gain employment by utilizing the timelimited services provided through the Division of Vocational Rehabilitation or job training programs.

"Transition with Ongoing Service", the third bridge, is designed for more severely disabled students requiring on-going services such as job placement or independent living skills, for an unlimited amount of time. Services included for this population do not lead to unsupported employment.

While each component in this five part model is important if all individuals with a handicap are to be included, the objectives and strategies are different for each area. Concerted efforts between community agencies, employers and special education services are seen to be essential for entry level job skills training and the OSERS transition model encourages the involvement of these public and private sectors in referral, assessment, and counseling procedures, eligibility criteria, and curriculum planning.

While the primary intent of the OSERS model is to enhance the successful transition from high school to working life, it address not only programming strategies, but also challenges political and economic issues such as

minimum wage levels, equal employment opportunities, business incentives to offer employment, and general unemployment problems.

Because this initiative is a federal priority, the State of Iowa has coordinated the services of community agencies such as Vocational Rehabilitation, Department of Social Services, Job Services, Department of Human Services, and others in their transition model. Reciprocal agreements among and between these service providers prevents the overlapping of services provided to the disabled student and lessens the bureaucratic ordeals students encounter when applying for assistance on their own.

Remedial/developmental education

Merging of special education and vocational education. Remedial education, contrary to common belief, is not a new phenomena. Comments on students' lack of preparation for college level studies may be found as early as the beginnings of the colleges in colonial America (Cohen & Brawer, 1984; Rousche & Snow, 1977). As an extension to secondary school the community college mission opened the door for students who were unprepared or underprepared for college level instruction (Rousche & Snow, 1977) and guided them to college transfer or vocational education programs in which they had a chance of success.

"Experience in dealing with underprepared students has caused remedial education to evolve into the broader concept of developmental education" (Task Force of Remedial Programs 1986, p. 2) where courses designed to teach literacy - reading, writing, and arithmetic are taught. In the 1970s the "three Rs" were integrated with individualized instruction. Additions to the curriculum included study skills, human potential, peer and professional tutoring, and learning laboratories.

Numerous studies found in ERIC report successful remedial programming. Research investigations comparing students participating in remedial instruction to students who were not enrolled into remedial programming reported: increased grade-point averages, regular attendance, greater school satisfaction, increased attrition rates, enhanced sense of personal responsibility, and increased test scores (Cohen & Brawer, 1984, p. 234).

Remedial education programs can also be connected with adult basic education. Company employees and employees of local public agencies are given opportunities to prepare for a high school diploma, update vocational or academic skills, and personal and career counseling (Cohen & Brawer, 1984, Task Force of Remedial Education, 1986, p. 2).

Several national studies and research investigations have "established a continuing need for remedial and developmental education. In a rapidly changing employment market, requirements for adequacy in the work setting can be expected to increase the demands for educational preparation. Furthermore, the current drive in society to increase the quality of the educational experience and to raise standards puts further pressure on curricula and enhances the need for remedial and developmental education" (Task Force of Remedial Education, p. 2).

Public community colleges have borne the brunt of poorly prepared students in the twentieth century. Recommendations of Iowa's Regents' institutions (Task Force of Remedial Education) as well as those found in the First in the Nation in Education (FINE) (Urban, 1984) report agree that only students in the upper half of the graduating class, returning adults and "late bloomers" can profit from university education and should be admitted with a "modest amount of remedial work" (Task Force of Remedial Education, 1986, p. 3), leaving the area colleges as the best place to educate students needing remediation.

Curriculum In Iowa's Regents' institutions educational remediation is limited to the areas of mathematics, English composition, and chemistry; with no

student spending a semester exclusively in remedial courses (Task Force of Remedial Education, 1986). The open-door /open-admissions policy of public community colleges, encourage the participation of learning disabled students into their instructional programs. Most public community colleges have remedial/developmental education programs already in place within their institutions (Cohen & Brawer, 1984). Three organizational designs for such programming were outlined in a national study completed by Rousche and Snow (1977): (1) "isolated developmental courses within already-existing departmental structures (e.g., a course in developmental mathematics added to mathematics department offerings); (2) interdisciplinary groups of instructors who team-teach developmental courses while retaining primary appointments in disciplines; and (3) comprehensive developmental education programs as umbrellas for the academic and supportive functions. A fourth, other category included various combinations of voluntary and ad hoc plans, and derivatives of the three basic designs with institutional variations" (Rousche and Snow, 1977, p. 29).

While remediation of basic skills by tacking on isolated courses within departments may have been effective for mildly impaired students, this approach proved to be ineffective for meeting the needs of students with more

severe learning disabilities (Ross, 1987, pp. 4-5). The complexity of a learning disability requires the formulation and use of a variety of instructional interventions.

Admission criteria Few community colleges maintain admission requirements because of the open-door/open-admissions policies. Morrison and Ferrente (Cohen & Brawer, 1984) found in their study of public two-year colleges that less than half demanded a minimum high school grade-point average, an entrance test, interview, letter of recommendation, and only one third required a high school diploma (see Table 2).

TABLE 2. Admission Criteria in Public Two-Year Colleges

1970	
Criterion	Percent of Colleges
High school diploma or equivalent	86
Minimum age	27
High School grade average	0
Test scores	28
Interview	7
Letter of recommendation	16
Physical examination	41
High school diploma or certificate only	34
Minimum age only	5
High school diploma or minimum age only	55

Source: Morrison and Ferrente (Cohen & Brawer, 1984)

Some academic programs do have admission requirements. To enter remedial programs some community colleges do require at least one of the above requirements. Interviews and counseling are required by many of Iowa's community colleges. Tests are usually based upon some type of differential diagnosis administered either by the college, the secondary school, or by an outside agency. However, it is important to note here, the difficulties of reaching a differential diagnosis for the learning disabled adult. "The scarcity of reliable diagnostic instruments to determine processing problems in adults, reluctance to subject adults to extensive testing prior to providing instructional intervention, and the difficulty of determining causation of learning problems retrospectively create a challenge to identifying learning disabled adults" (Ross, 1987, pp. 4-5).

Staffing Rousche and Snow (1977) found that many faculty members have not chosen to teach remedial education. Oftentimes, it is the new teacher who gets to teach the courses that other professors do not wish to teach - the most remedial classes. Many times these teachers do not have the educational background to teach these courses and do not wish to teach them. This lack of enthusiasm is reflected in the classroom. Cohen explains this lack of

desire to teach remedial education and its effect on faculty members as follows: "The traditional faculty members remember their college in the 1950s and early 1960s, when they had well-prepared students. They may feel nostalgic, perhaps even betrayed because the conditions under which they entered the colleges have changed so. At the same time, they may be pleased that the segregated compensatory education programs remove the poorest students from their own classes; over one fourth of instructors teaching the traditional academic courses (humanities, sciences, social sciences, and technologies) would prefer "stricter prerequisites for admission to class." Nonetheless, the teachers in the compensatory education programs run the risk of becoming pariahs, similar in that regard to occupational education instructors in the pre-1960s era" (Cohen & Brawer, 1984, pp. 236-237).

The NJCLD (1987b) believes that there is an urgent need to re-evaluate current concepts and practices in the preparation of professionals who will be responsible for the education and management of individuals with learning disabilities. It is also essential that institutions of higher education re-evaluate their roles and responsibilities for the education and training of these prospective professional personnel (p. 229).

Institutions of higher education should establish comprehensive interdisciplinary education and training programs for preparation of professionals which should include...human development and its psychology...theories of language acquisition and use...[and] educational theory and practice in learning disabilities (NJCLD, 1987b, p. 230).

Financial aid As stated in the definition, remedial education courses are not usually accepted for credit toward an academic degree (unless the courses are not necessary for the major or degree), yet an individual taking these courses must pay the same for them as they would for any other course. Because these courses carried no academic credit, financial assistance was not afforded to the student. Recently institutional credit has been awarded to these courses which would allow a student to receive financial assistance and continue their education.

Educational reports Two educational reports have significantly impacted the community college mission. They are: The First in the Nation in Education: Report of the Excellence in Education Task Force, and The Final Report and Proposed Plan of the Task Force on Remedial Programs. Each of which proclaim that remedial education is a needed and necessary academic program and would be best served in the community colleges as opposed to secondary or four-year colleges and universities (see Appendix A for text).

Summary for Social/reform movements

Based on the previous discussion, it should be clear that the delivery of services to handicapped students is largely due to public pressure or need. A need arises, and Congress passes a piece of legislation to meet the need. "As pressures to enhance educational standards continue, the need for remediation at all levels of instruction is expected to increase, not to decrease" (Task Force of Remedial Programs, 1986, p. 2). The final report for a study prepared for the American Association of Community and Junior Colleges (AACJC) entitled Building Communities: A Vision for a New Century, has made the following recommendations toward this endeavor (Staff, 1988):

- Community college faculty should take the lead in closing the gap between the so-called "liberal" and "useful" arts. Students in technical studies should be helped to discover the meaning of work. They should put their special skills in historical, social, and ethical perspective.... Those in traditional arts and science programs should, in turn, understand that work is the means by which we validate formal education.
- We propose that at least 2 percent of the instructional budget at every community college be set aside for professional development.

- We recommend that the reading, writing, and computational ability of all first-time community college students be carefully assessed when they enroll. Those not well prepared should be placed in an intensive developmental education program. Community colleges must make a commitment, without apology, to help students overcome academic deficiencies and acquire the skills they need to become effective, independent learners.
- We recommend that [a] core curriculum be integrated into technical and career programs so that students place their specialization in larger context and relate learning to contemporary problems.
- We recommend that every college develop a clear agreement among faculty, students, and administrators on what portions of the core curriculum are to be included in technical education programs.
- We also urge that special attention be given to the selection of technical education faculty and administrators to assure that they can develop up-todate programs that integrate the core curriculum and technical education.

- We urge that classroom evaluation be the central assessment activity of the community college. That process should be strengthened through faculty development programs which focus on the use of classroom evaluation to improve teaching.
- We recommend that each community college develop a campus-wide assessment of institutional effectiveness. Such a program should include a periodic reexamination of mission and goals, specific programs, individual student outcomes, retention rates, and the performance of graduates.

The Learning Disabled Adult

The concept of "learning disability" is relatively new in comparison with other major concepts of special education, for example, mental retardation, emotional disturbance and physical handicaps. The term was first introduced in 1962 by Samuel Kirk to describe a group of non-physically handicapped children who exhibit difficulties learning in the classroom even though they possess average or above intelligence. Since then, several definitions for this handicap have been written including the National Advisory Committee on the Handicapped (1968) which was later adopted for use in the Learning Disability Act of 1969,

Education for All Handicapped Children Act of 1975, and the Carl Perkins Vocational Education Act of 1984. The following definition is from PL 94-142 (Education for All Handicapped Children Act):

> The term "children with specific learning disabilities" means those children who have a disorder in more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such a term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or environmental, cultural or economic disadvantage (Hammill, Leigh, McNutt, & Larsen, 1981, p. 336).

Close observation of this definition reveals: (1) a disability that includes and effects children only, and (2) the exclusion of an etiology. In 1981, controversy over the definition as it stands prompted the National Joint Committee on Learning Disabilities (NJCLD) to redefine this rapidly growing phenomena.

> "Learning disabilities is a generic term that refers to heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and

> emotional disturbance) or environmental influences (e.g., cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences" (Hammill, Leigh, McNutt, & Larsen, 1981, p. 336).

Definitional scrutiny and controversy still persists (Torgesen, 1986; Algozzine & Ysseldyke, 1986a, b; Adelman & Taylor, 1986a,b; McNutt, 1986; Hoy & Gregg, 1986; NJCLD, 1987a,c), but there is general agreement that persons with genuine learning disabilities as children, do not outgrow this disability upon reaching adulthood (Buchanan & Wolf, 1986; NJCLD, 1987a,b,c; Ross, 1987). And, while many learning disabled adults are successful, many are not. A large number of adolescents with learning disabilities do not complete high school; others have difficulty gaining admission to or completing college level programs; almost half have difficulty gaining or holding a job (NJCLD, 1987a; Will, 1985; Ross, 1987).

The recent arrival of learning disabled students into postsecondary education is a direct result of improved identification, instruction, and support services on the elementary and secondary levels. The Education for All Handicapped Children Act mandated that "a free and appropriate education" be awarded to children requiring special education services in "the least restrictive environment". For the learning disabled student, this

special attention yielded greater retention rates; and the learning disabled high-school graduate sought admission into postsecondary institutions.

The open-door/open-admissions policy of public community colleges encouraged the participation of learning disabled students into their instructional programs. However, knowledge of the disabling characteristics and learning styles of these students, and the ability to adapt instructional procedures to incorporate the needs of the student was largely dependent upon the educational background of the instructor. The following section is divided into two sections. The first discusses the characteristics and needs of learning disabled adults. The second, explains difficulties faced by community colleges when educating learning disabled adults.

Characteristics of adults with learning disabilities

"Much of the literature on learning disabled adults consists of follow-up studies documenting current learning problems of individuals who were diagnosed during childhood. Research of this nature tends to view learning disabled adults as grown-up children rather than examining their characteristics and needs within the context of adult behavior" (Ross, 1987, p. 5). Further, the neglect to include adult development into basic and applied research calls for a skewed perception of the adult with learning

disabilities. Studies done by Deschler (Ross, 1987), Buchanan and Wolf (1986), and others, however, prove that characteristics identified in adolescents often carry-over into adulthood; and can be categorized into four headings: (a) academic achievement, (b) language and cognitive deficits, (c) social adjustment problems, and (d) occupational selection and adjustment problems. A checklist summarizing these characteristics can be found in Appendix B.

Academic achievement Although debates over definition continue, most definitions contain common elements. One such common element defines the student with learning disabilities as having a discrepancy between intellectual potential and academic achievement.

The heterogeneity of this population is reflected in several research studies identifying strengths and weaknesses in learning disabled adults. In 1976, Rogan and Hartman (Longo, 1988) studied 90 adults who had attended a special school for learning disabled children between 1947 and 1967. Results of their study indicated that the mean reading, spelling and mathematics grade equivalences acquired on the Wide Range Achievement Test (WRAT) were 10.4, 8.4, and 6.7, respectively, indicating that learning disabled adults have stronger skills in the area of reading and are weakest in the area of mathematics.

In a 1982 study, Deschler, Schumaker, Alley, Warner, and Clark (Longo, 1988) reported that secondary learning disabled students academically plateaued by the 10th grade - with an average reading and math score for a seventh grader on the third grade and fifth grade levels, respectively.

A third study, by Buchanan and Wolf (1986), reports that the greatest proportion of these students have difficulty in written language as measured on the Woodcock-Johnson Psycho-Educational Battery administered to thirty-three adults referred to a psychoeducational consulting group (Ross, 1987).

Together these studies show the individualized uniqueness of this handicapping condition; and the lack of academic progress of its members can only be postulated. Anderson (Ross, 1987) proposes three possible reasons for the lack of academic progress: "(1) an attitude of discouragement about learning marked by the student perceiving himself as either mentally retarded or a slow learner; (2) a psychopathology resulting from a long history of failure now superseding the fundamental learning disability; and (3) a way of life in incorporating a concept of being unable to learn, thus mitigating the effects of any remedial efforts" (Longo, 1988, p. 11).

Language and cognitive deficits Learning disabled adults may also have difficulties in cognitive functions such as auditory and visual perception, memory (Cordini, 1981), and integration. In the classroom, students may exhibit difficulties copying from the blackboard, listening to a lecture, following directions, or taking notes (Ross, 1987).

Difficulties with time and spatial relationships are often overlooked as irresponsible attributes of the individual, but may indirectly hamper the student from achieving full potential. Being on time for class or appointments, losing track of time, and getting lost even in familiar places, for example, are commonly noted phenomenon (Ross, 1987).

Other cognitive areas such as communication effects a student's ability to interact with peers, associates, and persons in authority. Understanding non-verbal communication such as facial expressions and gestures cause the learning disabled adult to misinterpret conversational speech (Ross, 1987).

Concurring with this observation, Polloway, Smith and Patton (Ross, 1987) consider inadequate cognitive functioning from an adult development perspective. They suggest that "poor cognitive functioning is likely to be

associated with the inability to adapt to life events. They point out that successful previous adaptation provides the basis for the ability to deal with new events. Adults are likely in new situations to call on strategies that have worked for them in the past, thus facilitating the decision-making process required to respond to life events. If their reasoning is accurate, it is not difficult to see how adults with learning disabilities face a vicious cycle of continued ineffective problem-solving which may be far more personally devastating than a low level of reading skill" (Ross, 1987, p. 6).

Social adjustment Ross (1987, p. 11) notes studies by Blalock and Cheslar proclaiming counseling and psychotherapeutic services more beneficial for learning disabled adults than serving learning problems. Undeveloped coping and problem-solving strategies among learning disabled adults can result in dependence upon individuals in their environment. Teachers, parents, siblings, spouses, children and friends, may undergo stress as a result of the learning disabled adult's reliance upon them. Family counseling is often recommended to alleviate the problem (Ross, 1987, p. 6).

Occupational selection and employment

Statistically, adults with disabilities rank high on

unemployment, and low on job satisfaction and wages earned (Ross, 1987; Will, 1985, Brolin, 1985), revealing that for these individuals, vocational counseling is as pertinent as the amelioration of academic, cognitive, and social deficits. Cummings and Maddus (Ross, 1987) claim that inadequate vocational counseling perpetuate job choices that do not match the student's interest, abilities, and capabilities (Ross, 1987). In 1983 Geist and McGraph (Ross, 1987) indicate that these students lack adequate work habits, and take longer to learn work routines.

Identification of the learning disabled adult

Each student with a learning disability is unique; each showing a different combination and severity of problems. By definition alone, we know the learning disabled student to have a gap between potential and achievement even though they are seen to have average to above average intelligence. Thus the identification process of a learning disability begins with assessment--usually an intelligence test followed by reading, spelling and mathematics achievement tests (Hoy & Gregg, 1986) to be given at the beginning and end of each academic year to determine progress.

But, adults with learning disabilities are well aware of their deficits (Hoffmann, Sheldon, Minskoff, Sautter, Steidle, Baker, Bailey & Echols, 1987). Self-reported

inventories indicate that a great number of problems encountered by this population fall within the category of language and cognition. In elementary and secondary schools, speech and language pathologists address these skills. Yet, an extensive review of the literature found no reference to this type of intervention on the college level.

The instructional needs of the learning disabled adult

The needs of the learning disabled adult are similar to the needs of all individuals--respect, encouragement, an opportunity to grow and to become independent, self-sufficient contributors of society. Learning disabled adults however, often lack basic academic, social, and employment skills which enable them to meet their needs. For the learning disabled student, access into society rests on extended educational opportunities that address these needs.

"The importance of learning theory is acknowledged in three areas currently being explored to modify instructional practices for the learning disabled: (1) strategies for learning to learn, (2) models of learning based on students who have succeeded despite learning disabilities, and (3) adaptations of existing programs to suit the needs of the learning disabled" (Longo, 1988, p. 12).

And upon graduation from high school, or when an individual reaches a crucial developmental juncture, feelings of self-doubt, insecurity, and anxiety will surface (Seigel, 1974; Weener & Snef, 1982; Chickering, 1984). To assist persons cope with these feelings, accompanying feelings of hope and success usually intermingle with the less positive emotions. Unfortunately, low achieving students who drop out of school or somehow manage to graduate, arrive at this juncture without a success history or the support of hope from their classmates. Learning disabled students, being apart of this group of low achievers, evaluate their options of further training, occupational placement, and daily living environments with little hope and anticipation of success.

Difficulties faced by community colleges

Professional development "Though considerable time and money has been spent to educate regular class public school teachers about the needs and abilities of learning disabled students, little has been done to heighten the awareness of postsecondary instructors in this area" (Minner & Prater, 1984, p. 229). Frequently, admissions and counseling personnel assume the responsibility of informing the instructional staff of incoming students with nonvisible handicaps and explaining the characteristics of the

handicapping condition. Short intervention of this type "raises the hairs" of professionals, who, locked into tradition, need to adapt administrative and instructional methods to the academic needs of the student. Intellectually, these instructional staff can accept the challenge, but practically, they experience immense difficulty adjusting instruction to meet student needs (Longo, 1988; Minner & Prater 1984).

In the classroom, when professors are informed of a student's lack of ability in certain academic areas, there is a tendency to pattern instruction similar to the Pygmalion Effect. The professor unfamiliar with the characteristics of learning disabled students, but who has prior knowledge of the student's academic history, has the tendency to do one of the following things: (1) expect the student to fail--deems the student unable to benefit from college instruction and gives the student no additional assistance; or (2) expects the student to fail--overcompensates by giving the student special attention thereby making the student dependent upon the instructor (Longo, 1988).

In light of this, professional development is essential to instructional intervention. Professional development activities present non-threatening avenues to change; thus,

permitting instructors to "admit underlying worries about teaching ability, personal prejudice, and threats to security, allowing the instructor to re-examine his/her approach to teaching without compromising academic values. "Not only is professional development advantageous to instructional programming, it can also be seen as personal development for the professional as well" (Minner and Prater, 1984, p. 193). In the words of Lindquist (1981, p. 732), "If academics are seen as developing adults who aid in the development of other adults [their students], it becomes clear that professional development is critical to the renewal of the American college".

Possibly, the lack of professional development activities in community colleges can be attributed to inadequate funding. Toss-ups between designing and implementing professional development activities and implementing appropriate student instructional programs has turned into a "chicken before the egg" philosophy among decision-making personnel.

Instructional programming Difficulties in the identification process of learning disabled adults has led postsecondary educators to devise alternatives to the traditional avenue of teaching (Hartman & Krulwich,1983, p. 12) such as:

1. Pre-college year or semester programs - held on either a secondary or college campus, strengths and learning styles are diagnosed. Classes of three to six individuals teach organization and study skills. Counseling and psychotherapeutic services are provided. Fees are covered by medical insurance.
2. GED preparation - learning disabled high school dropouts strive to meet minimum competency test requirements necessary for the high school diploma.
3. Learning disabled programs on college and university campuses - a separate admission into this program is frequently coordinated by a learning disabilities specialist. Diagnostic evaluations may be a part of the program, but its major emphasis is placed on individual counseling, academic advising, and identifying personal and educational strengths. College level courses are taken by students for credit as well as several non-credit courses encouraged by program staff to enhance individual skills. "The goal of the LD program is to teach LD students how to manage their disability and provide the

necessary support services so that the student ultimately can function in the regular campus program, earn a degree, and handle life situations" (Hartman & Krulwich, p.12).

4. Regular College Program - learning disabled students may also be admitted to colleges and universities through either open-enrollment or selective procedures. Under these circumstances, the college has available for all students support services and tutoring. Students needing additional services, i.e., auxiliary aids or special adaptations could be available through Disabled Student Services. "Students who succeed in this regular setting are those who are used to managing their disability, fairly assertive about their needs, and who are strongly motivated to succeed" (Hartman & Krulwich, p. 12).

Curriculum/educational settings The above educational settings are available for students who have been previously identified as having a learning disability. Some students are reluctant to divulge their disability and enter a "hide-out" phase of their college education during which they attend classes, carry books and act as if "no problem" exists (Allard, Dodd, & Peraliz, 1987). However,

once discovered, the learning disabled student enters a remedial/developmental educational program and usually does quite well.

Adult Development and Learning Theory

The complexities of educating learning disabled adults makes it difficult for anyone to be certain of the best, or even one method to be used. However, community colleges can be certain, these students, if by virtue of age only, are adult individuals with unique qualities. The adult years, once thought to be a time of stability and rationality, are now recognized as a period actually ensconced in change and uncertainty, precipitated by problems of daily life and major transitions experienced by virtually all human beings (Schlossburg, Troll, & Leibowitz, 1978, p. v).

However, much of the research compiled on individuals with learning disabilities, tend to perceive learning disabled adults as a grown-up children. In this section, practical implications of adult development, counseling, and learning theories are presented as an avenue to broaden the scope of knowledge and understanding of the teaching and learning styles and strategies that can be applied to learning disabled adults.

The work of Arthur Chickering on the topic of adult development (1979, 1980, 1981a, 1981b, 1983, 1984), Nancy Schlossberg on adult counseling (1984; Scholossberg et al.,1978), and Malcolm Knowles on adult education and learning theory (1984a, 1984b), have been selected for several reasons: (1) they combine theory and practice to obtain a practical approach for education, and (2) they address the deficit areas most commonly described as learning disability identifiers.

Arthur Chickering

Arthur Chickering has significantly contributed toward the understanding of student development during the college years. Building on the work of Erik Erikson (1950), and Feldman and Newcomb (1969), Chickering noted that there was more to development in college than intellectual competence. In his book, Education and Identity (1984), Chickering links theory and educational policies and practices, as he builds a conceptual model of a college environment which would promote both learning and development.

His major premise is that developmental changes do occur during the college years. "Numerous cross-sectional and longitudinal studies of college students indicate that changes occur in attitudes, interests, values, future plans and aspirations, openness to impulse and emotions, personal

integration and intellectual ability. Such changes have been found for diverse students in diverse institutions. Some of these changes are shared by those who do not attend college; but college does make a difference.... So a developmental period of young adulthood does seem to exist now, a period during which certain kinds of changes occur or strong potential for such change exists, a period during which certain kinds of experiences may have substantial impact. This period merits special attention because mounting evidence indicates that patterns established at this time tend to persist through this period in a college setting, it merits special attention so that institutions of higher education can better serve society and more effectively as young persons move productively from adolescence to adulthood" (Chickering, 1984, p. 2).

Interested in the types of decisions and needs that are of primary concern to students between the ages of seventeen and mid-to-late twenties, Chickering investigated the skills and attitudes that must be developed in order for the student to make decisions and cope with college life.

He identified seven "vectors", or tasks confronting the college student which are heavily influenced by society, culture, and/or the environment in which the individual lives: (1) sense of competence, (2) managing emotions, (3)

developing autonomy, (4) establishing identity, (5) freeing interpersonal relationships, (6) developing purpose, and (7) developing integrity (see Appendix B for further explanation).

According to Chickering, if colleges wish to be educationally effective, they must reach their students "where they live" by addressing the central concerns of the student in addition to developing intellectual skills.

Realizing the complexities of providing individualized education for all enrolled students, Chickering looked to the college environment as the major prod toward student development. He envisioned the gathering and interacting of students with varying backgrounds, cultures, geographical locations, and experiences onto a single college campus as the creation of a new "society" from which a student can grow and develop.

Six major aspects of the college environment were considered in relation to the seven vectors: (1) clarity and consistency of objectives; (2) institutional size; (3) curriculum, teaching and evaluation; (4) residence halls; (5) faculty and administration; and (6) friends, groups and student culture.

He further states that "professional preparation and educational programs that are relevant to social problems

and that facilitate significant student development and professional preparation need not be mutually exclusive. Willliam Heard Kilpatrick (Chickering, 1980) recognized the motive power in vocational interests and described how general education and personal expansion could be driven by it. Colleges that attract young adults with strong professional interests can capitalize on those motives. Professional preparation can be more than training students to use in common language, common skills, and common concepts. By modification of the processes and the experiences by which such preparation is achieved, significant vectors of student change can be amplified and accelerated, and students can place their future work in the context of life-styles and social issues that are important to them. But this acceleration cannot be achieved by turning a back to these central concerns and focusing more narrowly on training skilled workers. It requires meeting students where they are and establishing relevant programs that will take them where they want to go and where those who support and man the colleges want them to go" (Chickering, 1984, p. 4).

As a result, Chickering suggests five major experiences or situations central to developmental change. These are situations which: (1) engage the student in making

choices; (2) require interaction with diverse individuals and ideas; (3) involve students in direct and varied experiences; (4) involve the student in solving complex intellectual and social problems without demands for conformity to an authority's view; and (5) involve the student in receiving feedback and making objective self-assessments.

Nancy Schlossberg

Also interested in student development, Nancy Schlossberg concentrates her research on counseling adult students. "Counselors of adult students require special knowledge and skills that are different from those needed by counselors of children and adolescents. Specifically, they must have (1) a knowledge of adult development, and skill in applying that knowledge; (2) the ability to listen and respond effectively; and (3) a practical understanding of the decision-making process" (Schlossberg, Troll & Leibowitz, 1978, p. 111) all of which must, in turn be integrated with transition theory--factors that influence how adults cope (Schlossberg, 1984, p. ix). According to Schlossberg, adults (ages 20-60) are virtually unprepared for the feelings of confusion and isolation that concomitantly occur in times of crisis and stress. Although change is an expected and normal process of life,

"adulthood" is perceived by many as a period of stability and saneness. Conflicts occur when the inevitable or unpredictable transitions of life are confronted. The need for change oftentimes runs counter to socially accepted contexts of a particular society or may cause dissonance when what one feels should be done and what one actually wants to do are not congruent. The role of the counselor is to assist adults understand, explore, and cope with the stress that accompanies these changes by effectively communicating and integrating theories and knowledge of adult development with counseling and process skills (Schlossberg, 1984, p. 110-162).

In her book, Counseling Adults in Transition: Linking Practice with Theory (1984), Schlossberg summarizes recurring themes which account for crisis in adulthood. They are: (1) identity, (2) intimacy, (3) autonomy and satisfaction in adult life, (4) generativity, (5) competence, and (6) belonging versus marginality (pp. 20-40).

Malcolm Knowles (1984a, 1984b)

Until 1926, "there was only one theoretical framework for all education, for children and adults alike - pedagogy; in spite of the fact that pedagogy literally means the art and science of teaching children" (Knowles, 1984b, p. 27).

Malcolm Knowles' notoriety stems from his contributions to adult education and learning theory, from which he designed a teaching model specifically for teaching adult students.

In the student-directed model, full responsibility for teaching, learning and evaluation rests on the teacher; and is based on the following assumptions (Knowles, 1984b, pp. 53-56).

1. The need to know. The prerequisite for promotion is determined by learning what the teacher teaches.
2. The learner's self-concept. The teacher's dominant role in the classroom leads the student to be dependent upon the teacher for all learning regardless of level of maturation.
3. The role of experience. The level and type of experience of the learner is of no consequence to instruction. Learning occurs though the experience of the teacher, textbook or other learning aids and is transmitted via lectures or assigned readings.
4. Readiness to learn. Students must be ready to learn what and when the teacher wants them to learn if they wish to be promoted.

5. Orientation to learning. Learning is subject-centered. ..."learning experiences are organized according to the logic of the subject-matter content" (p. 54).
6. Motivation. Students are externally motivated to learn. Such motivators would include grades, teacher approval or disapproval, and/or parental pressure.

Setting its foundation on the learning theories of such renown social scientists as Sigmond Freud, Abraham Maslow, Erich Fromm, Carl Jung, and Carl Rogers, the adragogy model (term coined by Knowles), addresses itself to the unique characteristics of adults as learners. Unlike pedagogy, it is not an ideology, but a "system of alternative sets of assumptions" upon which teachers should base their teaching strategies by feeling out the situation and discerning the particular method most pertinent to the learning goal. Differing, yet not opposing the pedagogical model are the assumptions of the andragogical model. They are (Knowles, 1984b, p. 55-61):

1. The need to know. Adults need to know why they must know something before they attempt to learn it. It is therefore essential that the learner become aware of the practical applications of, or

how to apply already acquired knowledge to everyday life situations.

2. The learner's self-concept. Inherent in the premise of "adulthood" are the concepts of self-direction and self-decision. Adults resist and resent being placed into a position where they feel that others are imposing their will onto them. When in a position of this sort, adults tend to flee from the situation which could explain the high dropout rate found in most voluntary adult education.
3. The role of the learners' experience. Unlike children, adults enter the educational arena with prior life experiences from which to draw into a learning situation--and to some extent, define who they are. When a facilitator or teacher does not acknowledge the individual's experience, in essence, the facilitator is rejecting the individual as a person.
4. The readiness to learn. Adults become ready to learn those things they need to know upon the realization that the acquisition of this knowledge is necessary to cope effectively in everyday life. Essential to this concept is the

importance of timing learning experiences to coincide with developmental stages.

5. Orientation to learning. Adults differ from children and youths in their orientation to learning. In elementary and secondary school, education centers around subjects. For adults, learning is centered around life (task-centered, or problem-centered) situations.
6. Motivation. "While adults are responsive to some external motivator (better jobs, promotions, higher salaries, and the like), the most potent motivators are internal pressures (the desire for increased job satisfaction, self-esteem, quality of life, and the like). Tough (Longo, 1988) found in his research that all normal adults are motivated to keep growing and developing, but that this motivation is frequently blocked by such barriers as negative, inaccessibility of opportunities or resources, time constraints, and programs that violate principles of adult learning" (Knowles, 1984b, p. 61).

Summary of the Review of the Literature

A learning disability is a non-visible handicapping condition that affects the student's ability to receive, organize or express information. In any combination, one or more of the following academic areas are affected: listening comprehension, oral expression, written expression, basic reading comprehension, mathematical calculation and reasoning. Social skills may also be impaired. Individuals with this handicap are found to have average to above intelligence yet, exhibit a significant or severe discrepancy between intellectual ability and academic performance despite regular instruction and educational opportunity.

The etiology of such an impairment is unclear, but one thing is for certain, it is not a disorder from which a student will outgrow. Once diagnosed in elementary or secondary school, the learning disabled student receives special education services that will identify learning strategies and coping skills that will enable the student to learn to his/her maximum capacity. Upon graduation from high school, the now learning disabled adult is attending community colleges--a foreign educational system that, according to the literature, has few support services and even fewer personnel that understand them.

The educational needs of adults with learning disabilities are as varied and individualistic as the individuals themselves. Yet, the mission of community colleges, in general, and their administrative personnel, specifically, is to provide all individuals the opportunity to an education, hence the reason for the open-door policy.

Changing demographics, growth of technology, and public awareness has lead the Federal government to mandate a coordinated effort to remove individuals with handicaps from the institutions identified for the mentally incurable into the mainstream of society, with all of the support services required to facilitate their transition from school to work.

Student development theorists and practioners have informed us that education is more than the teaching and learning of academic skills. To separate the individual from environmental influences is denying the right to be human. The educational needs of the student must include the "whole student"; physical, emotional, interpersonal, skills must be incorporated as well. Student support services ranging from admission and recruitment to out-of-class activities are crucial to the developmental process of the learning disabled student. And it is the responsibility of student service personnel and all administrators to assure that the procedures and practices employed on the campus are non-discriminatory.

Teaching techniques such as the one suggested by Knowles, does not require additional funding or special equipment, but instead proposes linking the knowledge that that individual brings with them to the classroom (experiential learning) with instructional modifications that meet students where they are (learning styles). Knowles explains that instructional modifications of this type will enrich the educational experience for all students regardless of the presence or absence of a handicapping condition. To do this effectively professional development activities or a time where all college personnel can share their expertise and experiences with others is not only essential, but Federally mandated as well.

The 1960s brought public awareness, the 1970s brought numerous legislations that opened the doors for handicapped persons more than any other decade, and during the 1980s postsecondary institutions have searched for methods of implementation. This study will investigate the extent to which access and academic modifications have been employed in Iowa's community colleges.

METHODOLOGY

Introduction

Controversy over definition and educational programming needs of learning disabled adults between and among experts within the field of learning disabilities in general, and postsecondary educators specifically, is the major cause of variance in educational services and curricula provided in colleges today. An integration of basic and applied research is therefore essential to educational practice and implementation procedures. Thus, it is essential to identify the similarities and differences among and between current college practices.

This research provides a description of current educational services and curricula provided by Iowa's community colleges for their respective special populations and compares current individual college practices among and between all fifteen of Iowa's merged area community colleges. In addition, unobtrusive measures are identified which provide educational administrators insights and information necessary to strategically plan and implement the educational programs intended for learning disabled adults.

This chapter reviews the study's methodology including the following: research questions, population sampled, research variables, survey instrument development, data collection and data analysis procedures.

Research Questions

This study was guided by three research questions. The first question, "What are the perceived educational needs of college-age learning disabled students?", seeks information pertaining to the perceived needs of learning disabled adults. This question was answered using the following survey questions: 25, 27, 38, 39, 40 and 41.

The second research question, "How do community colleges currently meet the educational needs of learning disabled students?", takes a gestalt approach to the currently addressed educational needs of the student. Because of the complexity of this research question, it was necessary to divide the question into five parts. Part A traces the college's commitment to its mission and philosophy. It states: "What commonalities of mission and philosophy are found in Iowa's community colleges?" College commitment is determined by the following survey questions: 1-4, 6-16, 18-19, 23-24, 28, 30, 32, 34, 36-37, 39, 41, and 42.

Part B investigates accessibility of student services. Analysis of questions 6, 10, 15, 18, 19, 20, 21, and 39 provide the data to answer the question: "How are learning disabled students accessed within individual community colleges?"

Part C investigates student participation in courses, programs, and out-of-class activities. Analysis of questions 4, 11, 18, 23-24, 27-30, 32-34, 36-38, 40-41 and provide the data to answer the question: "What courses, programs, and activities are incorporated into the curriculum for learning disabled students?"

Analysis of questions 13, 14, 18, and 19 provide data to answer Part D: "Is the current funding procedure adequate for the curriculum adjustments necessary to educate learning disabled students?"

Analysis of questions 5, 16, 17, 21, 22, 31, 38, 40, 41, and 42 provide the data to answer Part E: "Is the faculty sensitive to the needs of learning disabled students?"

The third and final research question investigates the progress the community colleges have made in the last decade. It takes an eclectic approach by applying information found in the review of the literature to each college's reported status. "What will the future needs of

Iowa's community colleges be when designing programs for learning disabled students?", is answered utilizing survey questions 1 through 42.

Population Sampled

The total population of fifteen community colleges were selected to participate in this study. The institutions surveyed: (1) are two-year, public, merged area community colleges within the state of Iowa; (2) are fully approved by the Iowa Department of Education; (3) have a vocational education curriculum; and (4) grant the Associate of Applied Science degree, certification certificates, or diplomas.

Demographically, the selected community colleges represent student populations that may consists of: (1) urban, suburban, and rural residential districts; (2) a diversity of cultural, racial, socioeconomic, and ethnic backgrounds; (3) both non-handicapped and handicapped student applicants; and (4) were co-educational.

The size and area of recruitment was also taken under consideration as single as well as multi-campuses, as well as community colleges with and without residence halls.

Each of the community college catalogs indicated: (1) accessibility of remedial and/or developmental programming

to both transfer and vocational education curricula; (2) adult basic education; and (3) a variety of counseling components were included in their curricula.

Three sets of questionnaires were concurrently sent to individuals involved in educating underprepared and unprepared students in each college. The first set of questionnaires were sent to the total population of special needs coordinators (15)--individuals responsible for the administration and coordination of remedial and/or developmental education courses. The second set of surveys were sent to twenty-four learning resource center directors (24)--individuals responsible for adult basic education (this number reflects directors employed in community colleges with multi-campuses). The third set of questionnaires were sent to eleven randomly selected counselors and instructors housed on the community college campuses. A grand total of 50 questionnaires were mailed. All participants were selected from employment lists provided by the Iowa Department of Education.

Instrumentation

After an extensive review of the literature, the questionnaire for this research study was developed. Questions initially surrounded the findings of Morrison and

Ferrente (Cohen & Brawer,1984) and Rousche & Snow (1977) on remedial and/or developmental programming, and Cross on adult learning (1974). It was then combined with questions obtained from more recent findings on the needs and characteristics of learning disabled adults.

Procedures

Instrument development

A description of the progress Iowa's community colleges have made in educating learning disabled students since the 1970s handicapped student legislative Acts was compiled through the use of a 15 page questionnaire. The questions were formulated from information contained in the review of the literature: (1) mandates of the four cited legislative Acts; (2) concerns of social/educational reform movements of the 1970s and 1980s that have significantly impacted our nation's educational curricula and teaching styles; (3) characteristics of the learning disabled adult; and (4) adult development, counseling and learning theory perspectives. The questionnaire is shown in Appendix C.

The questionnaire is divided into three sections. The first section, entitled "General Information", collected information pertaining to college philosophy and mission. Questions 1 through 14 trace the colleges' written

commitment through the daily administration of its programs for handicapped students in general, and learning disabled students specifically. Enrollment, personnel, funding, and departmental services issues were investigated.

The needs of the learning disabled adult were studied in the second section of the questionnaire entitled "Learning Disabled Students". Characteristics of adult learners and learning disabled adults as reflected in the writings of Rousche & Snow (1977), Cross (1974), Deschler (Weener,1982), D'Alonzo (Weener, 1982), Schlossberg (1984), and Chickering (1984) formed this section's foundation. Questions 15 through 39 investigate types and accessibility of students services, and educational programming for learning disabled students. Issues relating to recruitment, admission procedures, financial aid, courses and types of credit, teaching and learning styles, evaluation procedures, and out-of-class activities are identified.

Questions 40 through 41 comprise the third and last section of the questionnaire entitled "Personal Information". At this time the respondent was given the opportunity to give their opinion of the questioned item by indicating relative importance of the provided statements. Educational and professional information is requested in this section also.

Several response types are required to answer the questions contained within the questionnaire. They are: (1) fill-in-the-blank, (2) Likert scale, and (3) check one or all that apply(s). Respondents were asked to complete the entire questionnaire and return it within a specified amount of time.

Borg and Gall (1983) emphasize that a questionnaire must generate sufficient responses in order to draw accurate conclusions about the general population. This study utilized three of Dillman's (1978) suggested techniques to substantially increase response rates:

1. The questionnaire, an attractively packaged booklet, included a color-coded cover page based on the respondent classification: blue = special needs coordinators; buff = learning resource center directors, and ivory = counselors and/or instructors.
2. Demographic information was placed at the end of the questionnaire.
3. The questionnaire was composed of uncomplicated questions.

The questionnaire was developed after an extensive review of the literature. Borg and Gall (1983) suggests a panel of experts review and critique the questionnaire

before mailing. Four members of the Department of Education were selected as experts and were asked to review the questionnaire for relevance and protection of the respondent. Those persons were: Raymond Morley, Special Needs Coordinator; William Walters, Learning Resource Center Coordinator; Donald Wederquist, Learning Resource Center Director; and Merriam Daws, Adult Education coordinator. The experts suggested: (1) wording revisions to question twelve to clarify the question's intent, (2) additional responses for questions six, eight, ten, fifteen, eighteen, and thirty-three, (3) the addition of questions thirteen and fourteen which pertain to funding and budget, (4) the addition of questions five, sixteen, and twenty-one which asks for the identification and position of personnel, and (5) the addition of question nine which asks the respondent to identify the department that houses special services provided. When these revisions and additions were incorporated into the questionnaire a letter of approval was received and is shown in Appendix C.

The questionnaire also was reviewed by the Iowa State University Committee on the Use of Human Subjects in Research. This committee concluded that this study protected the rights and welfare of the participants, that its potential benefits outweighed the risks, and that it assured confidentiality. The committee, however, suggested

revisions in the cover letter which were also adopted. A copy of the letter of approval is also shown in Appendix C.

Administration of the Questionnaire

The special needs coordinators, learning resource center directors and selected counselors and instructors were mailed a cover letter signed by Raymond Morley, Iowa Department of Education encouraging cooperation in this study and a questionnaire. Printed in the questionnaire booklet was another cover letter detailing the study and assuring anonymity. Each questionnaire was coded in order to assure anonymity and for researcher identification of responding institutions. Actual steps of administration were as follows:

1. Each subject received a cover letter detailing the study and assuring anonymity. Enclosed was a letter of support from the Department of Education, signed by Raymond Morley, Bureau of Compensatory and Equity Education and Donald Wederquist, Bureau of Area Schools encouraging cooperation in the study.
2. First-class pre-paid postage was used to encourage responses. The respondent need only to answer the questionnaire, seal the booklet, and put the booklet in the mail.

3. After the deadline date, non-respondents were reminded through telephone correspondence. Reasons for non-compliance were recorded.
4. As a result of the obtained reasons of non-compliance, a second mailing of the questionnaire and cover letter was mailed one month later to special needs coordinator non-respondents only.
5. The questionnaire was followed by a telephone reminder after the deadline date and reasons for non-compliance was recorded.
6. The researcher attended a special-needs conference where conference participants were informed by the researcher of the purpose and progress of the study. Questions were entertained at this time.
7. A third mailing of the questionnaire and cover letter was sent to the non-responding Special Needs Coordinators non-respondents.
8. A follow-up telephone reminder to the non-respondents was made after the deadline date and reasons for non-compliance were recorded.

A grand total of eleven questionnaires were received. Seven questionnaires from special needs coordinators and one from a learning resource director was received from the

first mailing. Two additional questionnaires were received from the second mailing. One additional questionnaire was received from the third mailing.

Reasons for non-compliance were collected at the time of the follow-up telephone conversations. The first telephoning revealed that learning resource personnel (individuals included in the second and third populations sampled) do not work with learning disabled students. The study was then re-designed to include only the special needs coordinators, the first population sampled.

Selection of Variables

The questionnaire contains 42 questions which have been subdivided into a total of 360 variables. Each possible response to a given question received its own respective code.

"General Information", the first section of this questionnaire, contains 14 questions and a total of 89 variables. "Learning Disabled Students", the second section, contains 25 questions and a total of 242 variables. "Personal Information", the third section of the questionnaire, contains 3 questions and 29 variables. Refer to Table 3 for a summary of the variables.

TABLE 3. Correlating Survey Questions for Research Questions

Questions of the Study	Nominal Variables	Continuous Variables	Free-Response Variables
1 Student needs	Q. 38,39	Q. 25,40,41	Q. 38
2A Mission and philosophy	Q. 1,2,3a,3b,4a 6a,6b,7,8,9 10,11,12,13 14,15,16,18a 18b,19a,23a 24,28a,28b 30a,30b,32 34,39,42a 42b,42c,42d	Q. 4b,36,37 41	Q. 1,9,18a 42a,42b 42c,42d
2B Access	Q. 6a,6b,10,15 18a,18b,19a 20,21,39		Q. 18a
2C Courses/ programs/ activities	Q. 4a,11,18a 23a,23b,24 27,28a,28b 29,30a,30b 32,33,36,38	Q. 4b,29,34 36,37,40 41	Q. 18a, 38
2D Funding	Q. 13,14,18a, 18b,19a,19b		Q. 18a
2E Faculty sensitivity	Q. 5,16,17,18a, 19a,21,22,31b 38,42a,42b,42c 42d	Q. 40,41, 31a	Q. 18a,38, 42a,42b 42c,42d
3 Future needs	Q. 1,2,3a,3b,4a 5,6a,6b,7,8 9,10,11,12, 13,14,15,16 17,18b,19a, 19b,20,21,22 23a,23b,24 27,28a,28b 30a,30b,31a	Q. 4b,25,29 36,37,40 41	Q. 5,7,9 16,18a 22,27 30a,30b 38

TABLE 3. (Continued)

Questions of the Study	Nominal Variables	Continuous Variables	Free-Response Variables
	30a,30b,31a 31b,32,33, 34,35,38,39 42a,42b,42c 42d		

Data Collection

Nominal/Categorical Variables

Each answer provided by the respondents was coded as nominal data. Questions requiring a whole number or percentage were coded as nominal data utilizing the actual number given as its respective code. This is exemplified in questions 3a, 3b, 4a, 4b, 21, 31, and 34. Each question was then analyzed utilizing frequencies and percentages.

Continuous Variables

Questions 25a, 25b, 25c, 25d, 29, 39, 40 and 41 utilize a numbered Likert scale with one indicating the most negative response and nine the most positive response. The numbered response was used as the code for that question. The same type scale was utilized in question 37, however the question was coded with one being the most positive response and five being the most negative response. Each question

was then analyzed utilizing mean scores and standard deviations.

Free-response variables

Responses to questions that require a written, short answer were separately noted. After the final deadline date these responses were then coded as nominal data and later analyzed by frequency of response and percentages; eleven questions necessitated a free-response. They were questions 1, 5, 7, 9, 16, 18a, 22, 27, 30a and b, 38, and 42a, 42b, 42c, and 42d.

Other (specify)

Frequently, the researcher believed that the selection of responses to a particular question was incomplete. In this instance, an additional space was provided for the respondent to write in the missing information. Answers provided in this manner were treated as free-response variables and were noted separately. After the deadline date, the answers were categorized and coded as nominal data. This type of response occurs in questions 4a, 4b, 6a, 10, 15, 17, 25a, 25b, 25c, 25d, 32, 35, 39, 40, and 41.

Analysis of the Data

The statistical analysis for this study was accomplished using Statistical Analysis Systems (SAS). Univariate analysis required the use of frequency and mean procedures.

RESULTS

Introduction

The purpose of this study was to investigate the progress Iowa's community colleges have made toward the mandated regulations of the 1970s and 1980s handicapped education legislative Acts. To accomplish this goal, this study: (1) investigated the perceived educational needs of learning disabled adult students; (2) described and examined current methods applied by community colleges to meet the educational needs of learning disabled adult students; and (3) projected from the information provided above, areas where further strategic planning and implementation may be helpful.

Chapter 4 presents the results of the statistical analysis of the data collected via a mailed survey as described in Chapter 3. A copy of the questionnaire and frequencies of responses are provided in Appendix C. The results are organized according to the research questions proposed in Chapter 1.

Survey Participants

Ultimately, this study is based on the responses of ten (66.6%) special needs coordinators employed in fifteen Iowa

merged area community colleges. The returned surveys are representative of nine public community colleges and one public vocational/technical college.

Originally, fifty questionnaires were mailed to the total population of special needs coordinators (15) and learning resource directors (24), with an additional eleven randomly selected counselors and instructional staff. The first mailing was sent to all three populations and was returned by a total of 8 survey participants (6% of the special needs coordinators, 4.16% of the learning resource center directors, and 0% of the counselors and instructional staff). In follow-up telephone conversations special needs coordinators revealed that they received their survey and two others which had been forwarded to them from the learning resource center directors, counselors and instructional staff. Comments from randomly selected learning resource center directors revealed that learning disabled students were not enrolled in their adult basic education courses. Counselors and instructional staff were not contacted because they were selected from a list of employees for Iowa's community college Learning Resource Centers.

Special needs coordinator non-respondents were mailed a second and third questionnaire with follow-up telephone

conversations. Follow-up comments revealed that the survey had been passed on to individuals who had access to the required information. At that time, they could not determine where the questionnaire could be found.

The Department of Education verified their commitment to the study by asking the researcher to address the special needs coordinators at a Department of Education special needs coordinator's conference. The purpose and objectives of the study were explained at this time and conference participants had an opportunity to ask questions.

When none of the questionnaires were returned from Learning Resource Center directors, counselors and instructional staff after the first mailing and follow-up telephone conversations, the investigator decided to eliminate these populations since several special needs coordinators from several community colleges had already responded to the survey. Table 4 summarizes the questionnaire returns from the original total population mailed.

Educational and professional background of the survey participants

The survey participants were asked to provide personal information pertaining to college credentials and professional experience. Statistical analysis was based on

TABLE 4. Questionnaire returns from the original total mailed

Populations mailed the questionnaire	First Mailing (Aug.)	Second Mailing (Oct.)	Third Mailing (Feb.)	Total Percent Returned
Special needs coordinators	7	2	1	66.6
Learning resource directors	1	0	0	4.2
Counselors, instructional staff	0	0	0	0

the responses of survey questions 42a through 42d. From this information the investigator gained a more complete understanding of the persons participating in the study.

Educationally, all of the survey respondents had earned a bachelors degree plus additional courses. The highest degree earned was a doctorate degree. The majority (75%) of the respondents had obtained a master's degree.

Closer examination into the areas of concentration for each degree earned revealed that 62.5% of all of the degrees combined were concentrated in the area of educational administration, with only one individual concentrating in the area of special education.

Specifically, 50% of the respondents obtained their bachelors degree in liberal arts. Half (50%) of the master's degrees were found in the area of school counseling. There was only one individual with a doctorate degree and that degree was in the area of educational

administration. Table 5 summarizes the educational credentials of the survey participants and their corresponding areas of concentration for each degree.

TABLE 5. Highest educational degree earned and areas of concentration for individuals participating in this study

Highest Degree Earned	N	Areas of Concentration Per Degree: Educ Admin	Special Educ	Counseling	Liberal Arts	Other
Bachelors	0	1	0	0	4	3
Bachelors +	1	0	0	0	0	0
Masters	3	1	1	4	0	1
Masters +	3	2	1	0	0	0
Doctorate	1	1	0	0	0	0

Professionally, the average length of professional experience in education was 17.12 years with over half of (62.5%) the eight respondents having no teaching experience with learning disabled students (administrative experience only).

The survey participants were asked to respond to questions relating to educational programming for the general school population and for adults with learning disabilities. The information was then combined to answer the three research questions of this study: "(1) What are the perceived educational needs of college age learning

disabled adults? (2) How are the educational needs of learning disabled adults currently addressed? and (3) What do Iowa's community colleges need to further design and implement educational programs for learning disabled adults?" The following section describes the survey participants' responses to the first research question.

Perceived Educational Needs of Learning Disabled Adults

This research question focuses on the perceived educational needs of learning disabled adult students as determined by the survey respondents, and is answered by statistically analyzing the responses to survey questions 41--the importance of selected educational goals; 25--identification of the educational needs; 38--identification of problems not addressed in the study; 39--identification of student populations having access to the services provided for learning disabled students, and 40--identification of perceived major obstacles which prohibit learning for adults with learning disabilities.

Educational Goals

The respondents were asked to rate the relative importance of seven selected educational goals for learning disabled adult students. The average survey respondent

reported academic skills (8.3), vocational skills (8.3), and changing attitudes toward self (7.4) as the educational goals of highest importance, with the development of non-academic talents being of least importance (6.4). The results are summarized in Table 6.

TABLE 6. Frequencies of responses for the relative importance of selected college educational goals

Educational goals	Relative importance 1 Low	2	3	4	5	6	7	8	9 High	Statistic M	SD
Provide academic skills	0	0	0	0	0	0	1	4	4	8.3	.71
Provide vocational skills	0	0	0	0	0	0	1	4	4	8.3	.71
Provide social/daily living skills	0	2	0	1	0	0	2	1	3	6.3	2.91
Provide interpersonal skills	0	0	1	0	2	1	1	2	2	6.6	2.35
Develop non-academic talents	0	1	0	1	0	3	0	2	2	6.4	2.35
Change attitudes toward self	0	0	1	0	0	0	1	6	1	7.4	1.74
Change attitudes toward school	0	1	0	0	1	1	0	5	1	6.8	2.20

N = 9

Identification of the educational needs

As a result of PL 94-142, it is believed by some educators that students with disabilities require special services that students in the general population do not

require. Beyond the content areas, the most essential academic, vocational, and social skills learning disabled students needed to acquire were rated by the survey participants.

Academic skills The reading and communication skills of highest importance were: written expression (7.88), following directions (7.75), learning to listen (7.42), and vocabulary (7.37). Identified skills of least importance were handwriting (4.25) and verbal expression (4.71). Responses to this question are summarized in Table 7.

Mathematical and computational skills The survey respondents identified word problems (8.38), following directions (7.63), and fractions (7.0) as the mathematical skills most needed by learning disabled adult students. Those mathematical skills identified as least needed were making change (4.13), balancing a checkbook (4.25), and copying from the board (4.25). Survey participant responses for each selected skill is presented in Table 8.

Career and vocational skills Career and vocational education focuses on the preparation of students for employment. Beyond content knowledge, the respondents identified following directions (7.63) and interviewing for a job (7.35) as the most needed career/vocational skill for

TABLE 7. Frequency of responses for the perceived reading and communication skills needed by learning disabled adults

Reading Skills	Not Needed 1	2	3	4	5	6	7	8	Most Needed 9	Statistic N	M	SD
written expression	0	0	0	0	0	1	1	4	2	8	7.88	.99
following directions	0	0	0	0	0	0	4	2	2	8	7.75	.89
learning to listen	0	0	0	0	1	0	3	1	2	7	7.42	1.40
memory	0	0	0	0	0	1	4	2	1	8	7.38	.92
vocabulary	0	0	0	0	0	1	3	4	0	8	7.37	.74
being more assertive	0	0	0	1	1	1	1	3	0	7	6.57	1.62
expressing opinions	0	0	0	0	2	1	3	1	0	7	6.43	1.13
comprehension literal	0	0	1	0	0	2	2	2	0	7	6.40	1.71
select appropriate words	0	1	0	0	1	2	1	3	0	8	6.25	2.05
sequencing	0	1	0	0	2	1	1	0	2	7	6.14	2.48
nonverbal communication	0	1	0	1	0	1	2	1	1	7	6.14	2.41
asking questions	0	1	0	0	1	2	2	1	0	7	5.85	1.95
comprehension creative	0	2	0	0	0	3	1	1	1	8	5.75	2.55
word retrieval	0	1	0	0	1	3	3	0	0	8	5.75	1.67
grammar rules	0	1	1	1	1	0	2	2	0	8	5.50	2.33
enunciation	0	2	0	0	1	2	1	2	0	8	5.50	2.39
speaking more frequently	0	1	0	0	3	1	2	0	0	7	5.29	1.70
communicating affection	0	1	0	0	3	1	0	1	0	6	5.17	1.94
prefixes/suffixes	0	1	2	0	1	0	2	1	0	7	5.00	2.38
verbal expression	0	2	0	0	3	1	0	1	0	7	4.71	2.14
handwriting	0	3	0	1	2	0	1	1	0	8	4.30	2.32
speaking less often	0	3	1	2	1	0	0	0	0	7	3.14	1.21

obtaining and maintaining employment. The survey respondents perceived reading the want ads (5.14) and daily

TABLE 8. Frequency of responses for the perceived mathematical skills needed by learning disabled adults

Math skills	Not Needed 1	2	3	4	5	6	7	8	Most Needed 9	Statistic N	M	SD
following directions	0	0	0	0	0	1	3	2	2	8	7.63	1.06
basic facts	0	0	1	1	2	1	3	0	0	8	5.50	1.51
fractions	0	0	0	0	2	1	2	3	1	9	6.75	1.28
word problems	0	0	0	0	0	0	1	3	4	8	8.38	.74
careless errors	0	0	0	0	4	1	1	1	0	7	5.86	1.21
part/whole relationships	0	1	0	0	1	0	3	1	1	7	6.43	2.30
beginner algebra	0	1	0	0	1	2	1	2	1	8	6.38	2.20
geometry	0	1	1	1	0	0	1	2	1	7	5.86	2.79
trigonometry	2	1	0	0	1	0	0	1	2	7	5.00	3.70
balancing a checkbook	1	2	0	1	1	1	2	0	0	8	4.25	2.38
memory	0	1	0	0	1	2	1	0	0	5	5.20	1.92
percentages	0	0	0	2	1	0	3	1	1	8	6.38	1.85
decimals	0	0	0	0	1	1	3	2	0	7	6.86	1.07
sequencing	0	0	0	0	2	1	3	2	0	8	6.63	1.19
understanding math symbols	0	1	0	0	2	1	1	2	0	7	5.86	2.12
copying from the board	0	3	0	1	2	0	2	0	0	8	4.25	2.12
advanced algebra	3	0	0	0	0	0	1	2	1	7	5.00	3.79
physics	3	0	0	0	1	0	0	2	1	7	4.71	3.68
making change (money)	1	2	1	0	2	1	0	0	1	8	4.13	2.64

living skills (5.38) as the skills of least importance to learning disabled adults. The frequency of responses were summarized in Table 9.

Social and interpersonal skills needed The absence of positive employee/employer and employee/employee

TABLE 9. Perceived career/vocational skills needs of learning disabled students

Vocational skills	Not Needed 1	2	3	4	5	6	7	8	Most needed 9	Statistic N	M	SD
where to go for a job	0	0	0	1	2	1	2	1	1	8	6.38	1.69
interviewing for a job	0	0	0	0	2	0	2	2	2	8	7.25	1.58
finishing work on time	0	0	0	0	1	3	1	2	1	8	6.88	1.36
avoiding excessive talk	0	1	0	1	3	1	0	1	0	7	5.00	1.83
knowing how to be told each step in daily job	0	1	2	1	1	0	2	1	0	8	4.88	2.23
respecting others	0	1	1	0	2	1	2	0	0	7	5.00	1.91
eye-hand coordination	0	1	0	1	1	1	2	0	1	7	5.71	2.29
taking criticism	0	0	0	0	1	2	3	2	0	8	6.75	1.04
following directions	0	0	0	0	0	1	1	6	0	8	7.63	.74
being on time	0	0	0	1	0	3	2	1	1	8	6.63	1.51
reading want ads	0	2	0	0	2	0	2	1	0	7	5.14	2.41
filling out job applications	0	0	1	0	3	0	1	2	1	8	6.25	2.05
asking questions	0	1	0	0	1	2	1	1	1	7	6.14	2.27
daily living skills	0	3	0	0	1	0	1	2	1	8	5.38	3.02

relationships on the job site has been noted in the literature as imperative for job satisfaction and retention -- a problem for most learning disabled students. The skills most needed by learning disabled adult students in the area of social and interpersonal skills were identified by the respondents as self-esteem (8.50), self-confidence (8.12), self-concept (8.0), and meeting responsibilities

(7.25). The survey respondents found conversational situations (5.14), understanding humor (5.88), and personal appearance (6.0) as the social skills of least importance. Frequency of responses are summarized in Table 10.

TABLE 10. Perceived social and interpersonal skills most needed by adults with learning disabilities

Social skills	Not Needed 1	2	3	4	5	6	7	8	Most Needed 9	Statistic N	M	SD
conversational situations	0	1	1	0	2	0	3	0	0	7	5.14	2.04
being on time	0	0	1	1	0	2	1	3	0	8	6.25	1.91
nonverbal communication	0	1	0	1	0	1	2	1	1	7	6.14	2.41
personal appearance	0	1	1	0	1	0	2	3	0	8	6.00	2.39
self-concept	0	0	0	0	0	1	1	3	3	8	8.00	1.86
meeting responsibilities	0	0	0	0	2	0	2	2	2	8	7.25	1.58
managing emotions	0	1	0	0	0	2	3	2	0	8	6.38	1.92
sensitive of others	0	1	0	0	0	3	3	1	0	8	6.13	1.81
respecting others	0	0	0	1	0	1	4	1	0	7	6.57	1.27
understanding humor	0	0	0	1	2	2	3	0	0	8	5.88	1.12
self-confidence	0	0	0	0	0	0	1	5	2	8	8.12	.64
self-esteem	0	0	0	0	0	0	1	2	5	8	8.50	.76

Unaddressed problems of the study The survey participants identified additional skills that were not addressed above. Of the six participants responding to this question, fifty percent of the responses fell under the category "change attitudes toward self". These comments

included: (1) the ability to discern when it is appropriate to disclose their disability, and (2) coping skills to enhance academic learning skills, and (3) the effect the family has on the individual. The remaining comments were: (1) realization of the length of time required to diagnose a disability, (2) better methods of addressing identification, diagnosis, and intervention strategies, and (3) realistic career guidance.

Major obstacles When the actual needs cannot be positively identified, perhaps the problems can. Summarized in Table 11, the respondents indicated self-motivation (7.13) and poor prior schooling (7.00) as the reasons why learning disabled adults have difficulty learning. It should be noted that low intelligence was not found to be a reason for learning difficulties with learning disabled students.

Meeting the Needs of Learning Disabled Adults

A statement of mission and philosophy of each community college in the state of Iowa was found in their respective college catalogs. Three statements were commonly found: (1) a non-discrimination policy, (2) emphasis on educational opportunities for all students through quality programming, and (3) the open-admissions policy.

TABLE 11. Frequency of responses for the perceived reasons for learning disabled adults

Obstacles	Low Importance High									Statistic		
	1	2	3	4	5	6	7	8	9	N	M	SD
low intelligence	3	1	2	0	0	0	1	0	0	7	2.57	2.15
home/family problems	0	0	0	0	2	3	1	2	0	8	6.38	1.19
poor prior schooling	0	0	0	0	1	2	2	2	1	8	7.00	1.31
parental educational levels	0	0	1	0	2	1	4	0	0	8	5.88	1.46
low socioeconomic status	0	1	1	1	0	0	3	0	1	7	5.57	2.57
lack of effort	0	0	0	0	3	1	3	0	1	8	6.38	1.41
fear of failure	0	1	1	0	2	0	0	2	2	8	6.13	2.75
fear of success	1	2	0	0	3	1	0	1	0	8	4.25	2.78
interest in non-academic matters	0	0	2	3	0	2	0	0	1	8	4.88	2.03
time constraints (job)	0	0	1	0	3	2	0	2	0	8	5.75	1.67
self-motivation	0	0	0	1	0	2	1	2	2	8	7.13	1.73
other	0	0	0	0	0	0	0	1	0	1	8.00	---

College commitment to their mission was investigated by tracing the learning disabled students' educational experience at the college. Current methods utilized to meet the educational needs of learning disabled adult students were compared with the educational programs and activities provided for the general population. The following areas were investigated: (1) recruitment, (2) funding and budgeting, (3) student services, (4) educational departments, (5) out-ofclass activities, and (6) evaluation.

Recruitment

Non-discrimination on the basis of a handicap links college mission with equal educational opportunity. This researcher investigated equal educational opportunity in recruitment procedures.

The recruitment methods most commonly used for traditional and learning disabled students were compared in Table 12. Upon respondent analysis, community colleges recruit learning disabled students and the general population through high school counselors, word of mouth and high school visitations, with almost equal frequency. However, learning disabled students receive less than half of the recruitment efforts given the general population in the remaining seven categories. Comments presented in "other" by four survey respondents (40%) provided information that could explain the gap's presence. They stated that a more personable approach is given to students with special needs. During high school visitations personnel more familiar with learning disabled students are contacted. The high school contact persons for this population were identified as: resource teachers, work experience coordinators, and members of the staffing committee. Table 12 summarizes Iowa's community college recruitment efforts for traditional and learning disabled students.

TABLE 12. A comparison of the methods used to recruit learning disabled students and students of the general population

Recruitment method	General Population	LD students
High School Counselors	10	10
Word of Mouth	10	9
High School Visitations	10	8
Community Contacts	10	5
Newspapers	10	3
Public Mailings	9	3
Radio Advertisements	9	2
Student Letters	8	2
Television	6	2
Other: (Specify)	3	4

N=10

Budgeting and funding

The survey participants were asked to respond to the current funding and budgeting process. Each participant stated that their college had applied and received monies allocated through the Carl Perkins Vocational Education Act. Eight of the respondents (80%) indicated that the funding provided through this legislative Act is not sufficient to meet the vocational education needs of special populations. Presently, Carl Perkins monies are targeted to the educational needs of handicapped students in general and 70% of the respondents agreed with this method of allocation. However, a large percentage (60%) believe the the current

method of fund allocation could be improved by specifically targeting learning disabled students. Further investigation into the current method of allocation revealed that only half (50%) of the respondents believed that their institution was able to match the federal dollars when required.

When asked "what percentage of the budget is devoted to learning disabled students", (directed to the mission of "quality programming" for all students) four out of eight (50%) respondents answered less than 10%, another four (50%) answered that this information was unavailable. Refer to Table 13 for frequency of responses pertaining to the Carl Perkins Vocational Education Act.

Student services

Admissions Although Iowa's community colleges have an open admissions policy, they reserve the right to deny admission into an educational program. In the admissions policy, students will be routed to remedial or developmental courses if their career interest and/or academic ability indicates that the student does not have the potential to succeed in regular college programming. The survey participants were asked in question 6a to identify those individuals whose responsibility is to identify and admit students into the college and into their desired educational

TABLE 13. Carl Perkins Vocational Education Act funding

Question	Yes	Percent	No	Percent	Do not know	Percent
Currently using funds	10	100	0	0	0	0
Are Funds Sufficient	1	10	8	80	1	10
Should money be targeted to handicapped students	7	70	1	10	2	20
Should money be targeted to learning disabled	6	60	3	30	1	10
Ability to Match Funds	5	50	5	50	0	0

N=10

programs. Table 14 summarizes the survey participants' responses.

Academic and career/vocational counselors were most commonly earmarked for involvement in the admission process for both into the college and into a selected program. Notice that the special needs coordinator, who would fall into the category of "Program Head", was included in the admissions process only 50% of the time. See Table 14.

TABLE 14. College personnel involved in the admissions process

Position	Into College	Into Program	Both	Neither
Program Heads	0	3	2	5
Academic Deans	0	0	3	7
Academic Counselors	2	1	4	3
Career Counselors	0	3	6	1
Remedial Instructional Staff	2	1	1	6
Regular Instructional Staff	1	2	1	6
Health Professionals	0	2	0	8
Student Advisors	2	1	2	5
Vocational Rehabilitation	3	0	3	4
Veteran's Administration	2	0	2	6
Local Area Education Staff	1	1	0	8
Athletic Staff	2	0	0	8
Placement Officer	0	1	0	9
Other	0	2	2	6

N = 10

On the average, 4.2 individuals were reported to be involved in the selection of students to be admitted into the college and 4.0 individuals involved in the selection of students to be enrolled into the educational programs. Question 6b investigated the decision making process most frequently used by the above identified admissions personnel to determine the admission status of entering students. The survey respondents reported that admissions personnel

primarily make independent or unilateral decisions and consult with other team members only when required. Table 15 summarizes the decision making process most frequently used by admissions personnel in Iowa's community colleges.

TABLE 15. Decision making procedure used by personnel involved in the admissions process

Method	Freq	Into College	Into Voc Program	Into Both	Into Neither
Individually	5	0	0	4	1
As a team	1	0	0	1	1
Team when required	7	0	0	6	1
Seldom meet	0	0	0	0	0

In question five of the questionnaire, the survey respondents were asked to indicate by position and department the individual that makes the final determination of the existence of a handicapping condition. The most frequently indicated responses were the Dean of Student Services and coordinators of specific programs which were later categorized as "Program Heads".

Within the Special Needs Coordinator's department, the position most frequently identified as making the final decision of the existence of a learning disability (question 16) was the Program Head (themselves). It should be noted,

however, that the vocational rehabilitation counselor was the second most frequently identified person that determines the existence of a learning disability. Refer to Table 16 for a summary of the responses.

TABLE 16. Who has the final determination of the existence of a disability?

Position	Determines Handicap	Percent	Determines LD	Percent
Program Heads	7	70	5	50
Academic Deans	1	10	1	10
Academic Counselors	0	0	0	0
Career/Vocational Counselors	0	0	1	10
Remedial instructional Staff	1	10	0	0
Regular Instructional Staff	0	0	0	0
Health Professionals	0	0	0	0
Student Advisors	0	0	0	0
Vocational Rehabilitation	0	0	2	20
Veteran's Administration	0	0	0	0
Local Area Education Staff	0	0	0	0
Athletic Staff	0	0	0	0
Placement Officer	0	0	0	0
Other: (Specify)	1	10	1	10

N = 10

School enrollment In order to strategically plan "quality programs", community colleges must be aware of their total school enrollment. Total school and vocational education student enrollment (question 3) was disclosed from eight out of ten respondents (80%) for the 1985-1986 school

year, nine out of ten respondents (90%) for the 1986-1987 school year, and ten out of ten respondents (100%) for the 1987-1988 school year. All ten of the respondents were also able to disclose the total number of disadvantaged and handicapped students enrolled this academic year.

Of the known handicapped population, four (44.4%) of the special needs coordinators identified learning disabilities as the largest enrolled handicapping condition in their respective college. Almost ninety percent (88.9%) of the respondents believed learning disabled persons were among the three disabilities they served most frequently. Table 17 gives the range of responses for question 4b.

TABLE 17. Types and percentage of handicapping conditions enrolled in Iowa's community colleges

Handicapping conditions	Percentage Range 0-25	26-50	51-75	76-100
Learning Disabled	3	2	1	1
Other Health Impaired	5	2		
Emotionally Disturbed	6	1		
Mentally Retarded	5	1		
Orthopedically Impaired	5	1		
Hearing Impaired	5			
Other	1			
Visually Impaired	6			
Speech Impaired	4			

N=9

Knowing the percentage of identified learning disabled students, the respondents were asked, in question 34, the percentage of learning disabled students that completed their respective educational programs. Survey participants believed that up to 75% of their learning disabled students complete their degree programs, up to 100% complete their high school diplomas, and up to 100% complete their certificate program. It should be noted that the special needs coordinators completing this survey provided an answer for the percentage of students completing their high school diplomas (Learning Resource Center directors stated that they did not serve learning disabled students). See Table 18.

TABLE 18. Percentage of learning disabled adults that complete their educational programs

Category	Do not Know	Percentage range 0-25	26-50	51-75	76-100
degree programs	2	3	1	2	0
diplomas	2	1	2	1	2
certificates	5	1	0	1	1

N=8

Placement Placement into an educational program is complicated by the number of students that do not notify the

college in advance of their disability. Procedures for program placement for a known disability and an unknown disability were investigated.

Program placement for a known disability

Responses provided by the survey participants revealed that admission personnel most frequently utilize the standardized tests administered in high school (80%) and college (90%), previous educational records (100%), and instructor recommendations (90%) to determine eligibility for remedial and developmental courses. Least used are high school transcripts (20%). Table 19 describes the tools most frequently used to determine eligibility for remedial courses.

Known disabled students are then referred to special services departments that the admissions officer believes could best meet the students' needs. Table 20 identifies the special services departments available on the college campuses according to the individuals participating in this study.

Program placement for an unknown disability

When a disability is unknown upon admission, a student is referred by a counselor or instructor for assessment which could be administered either by the college or by an outside agency. Table 21 reveals that diagnostic services provided

TABLE 19. Educational tools utilized to determine eligibility for remedial course enrollment

Tools used to determine eligibility	Yes	Percent	No	Percent
Standardized tests	10	100	0	0
High school	8	80	2	20
College	9	90	1	10
Previous educational records	10	100	0	0
Instructor recommendations	9	90	1	10
Student recommends	6	60	4	40
College counselor recommends	6	60	4	40
Medical history	5	50	5	50
Other	3	30	7	70
Transcripts	2	20	8	80
Grade cut-off	1	10	9	90

N=10

TABLE 20. Special services available for learning disabled adults

Special services	Yes	Percent	No	Percent
Pretesting/eval/curriculum placement	10	100	0	0
Counseling services	9	90	1	10
Veteran's administration	9	90	1	10
Vocational rehabilitation	9	90	1	10
Curriculum (courses)	8	80	2	20
Peer tutoring	7	70	3	30
Recruitment	6	60	4	40
Other	4	40	6	60
Special administrative unit	3	30	7	70

N=10

by the college occur with almost equal frequency on the main campus (62.5%) and on a satellite campus (50%). Those administered by outside agencies are conducted off campus (50%).

TABLE 21. Location of the provided diagnostic services

Place of assessment	Yes	Percent	No	Percent
On the main campus	5	62.5	3	37.5
On a satellite campus	4	50.0	4	50.0
Outside agencies off campus	4	50.0	4	50.0
Outside agencies on campus	0	00.0	8	100.0

N = 8

Assessment tools A learning disability is defined as a significant discrepancy between intellectual potential and academic achievement (Department of Education, 1985a). To determine a learning disability, standardized intelligence and achievement tests must be used (Department of Education, 1985a). Yet, only one institution reported the use of both types of assessments.

The assessment instruments utilized to determine a learning disability were identified by half of the respondents (50%). One respondent named assessments that yielded an intelligence quotient, five indicated the use of

an educational/performance test, none of the respondents indicated the use of neurological/performance tests, and two indicated the use of a vocational/career assessment.

The most commonly used achievement test was the Test of Adult Basic Education (TABE). None of the remaining achievement assessment measures were repeated when statistical data were analyzed. Performance measures were primarily determined for reading, mathematics and language skills.

Three of the five respondents (60.0%) indicated the use of cut-off criteria that may indicate, (when combined with other test information), the existence of a learning disability. The first using a grade level, the second using a percentile score, and the third stating that the cut-off criteria varied by vocational program. Table 22 identifies the assessment tools utilized and the type of information obtained from them.

Three (30%) of the respondents reported that departments assess for individual learning style preferences. As shown in Table 23, two of the three respondents revealed that informal assessment tools were used. One stated that standardized and informal tests were used.

TABLE 22. Assessment tools currently utilized in Iowa's community colleges to determine a learning disability

Test Name	IQ	Ed/Perf	Neuro	Voc
Nelson-Denny		X		
Peabody Individual Achievement Test (PIAT)		X		
Slossen	X			
Detroit Test of Learning Aptitude (DTLA)		X		
Gray Oral Reading		X		
Comparative Guidance and Placement				X
Test of Basic Education		X		
American College Test (Act)		X		
ASSET		X		
Woodcock Reading		X		
Reading Progress Scale		X		
Stanford Diagnostic Reading Test		X		
Reading for Understanding Placement Test		X		

N=5

TABLE 23. Frequency of colleges that assess for learning style preference

Tests for learning style	Yes	No	Total
Do you test for learning styles?	3	7	10
Method of Assessment:			
informal tests only	2		
standardized and informal tests	1		
standardized tests only	0		

Financial aid

Nine (90%) of the survey participants pointed out that financial aid is awarded according to need only; (10%) percent indicated that aid was awarded to needy students regardless of academic standing. A write-in response indicated that one college (already included in the ninety percent category) offers a scholarship for academically handicapped students.

College expenses in addition to tuition, room, and board are not included on the Federal Financial Assistance (FFA) form. The survey participants were asked if they knew who assumed responsibility for assessment costs. Five respondents (83.3%) of the six institutions responding to this question reported that the college covered the cost of the assessment; one (27.7%) claimed the student assumed responsibility.

For assessments administered by outside agencies (question 19b) four respondents (66.6%) reported that the agency absorbed the cost; two respondents (33.3%) indicated that they did not know.

Educational departments

Departmental programs To meet the educational goals, institutions (100%) offered departmental programs especially designed for underprepared and unprepared

students. Table 24 lists the variety of departmental programs offered and the number of institutions that have them. Developmental education courses were offered by 70% of the institutions participating in this study.

TABLE 24. Special programs provided for underprepared students

Departmental programs	Yes	Percent	No	Percent
HS transitional programs	4	40	6	60
Developmental education	7	70	3	30
Special support services	4	40	6	60
Independent learning center/lab	4	40	6	60
Career/vocational services	4	40	6	60
Tutorial assistance	2	20	8	80
Other	1	10	7	70

N = 10

Courses The survey participants were asked in question 30b to identify the courses learning disabled students were encouraged to enroll. Five respondents (50%) reported that their institutions encouraged learning disabled students to enroll into courses that would improve their academic and vocational skills. One (10%) responded that all college offerings are open to learning disabled students and enrollment is encouraged. Two (20%) respondents indicated that course enrollment depended upon

student interests and potential to succeed. Two (20%) respondents stated that course encouragement varied according to need and program.

Question 27 asked survey participants to identify the courses that addressed the skills most needed by learning disabled students. Eight out of ten (80%) survey participants listed the remedial and developmental courses offered by their institutions. Six respondents (75%) listed basic reading and mathematics courses, four respondents (50%) listed basic writing, study skills, job seeking skills and living skills. Courses offered to meet the colleges' educational goals are listed in Table 25.

TABLE 25. Frequency of developmental courses offered to meet the college's perceived educational goals

Academic	Freq	Vocational	Freq	Other	Freq
English	1	Job seeking	4	Social skills	2
Basic reading	6	Work skills	2	Living skills	4
Basic writing	4	Career explore	2	Coping skills	1
Basic math	6			Self-esteem	1
Algebra	2				
Study skills	4				
Communication	1				

Style of delivery This researcher investigated (question 23) the administrative style of offered remedial

and developmental courses, such as course length and the awarding of credit.

The survey respondents indicated that educational programs for learning disabled students were most often offered on a full quarter or semester basis (80%) and used full time faculty (70%). Five (50%) of the respondents reported that these programs work on a walk-in/walk-out basis, where upon completion of a desired skill level, the student no longer was required to attend. Refer to Table 26 summarizes the participants' responses to the length of remedial and developmental courses.

TABLE 26. Style of course delivery

Course delivery style	Yes	Percent	No	Percent
Year Long Program	3	30	7	70
Full Quarter/Semester	8	80	2	20
Walk-In/Walk-out	5	50	5	50
Utilize FT Faculty	7	70	3	30
Utilize Peer Staff	3	30	7	70

N=10

Type of credit The type of credit awarded to students taking remedial and/or developmental courses was also investigated. More than half of the survey respondents indicated that students were most frequently awarded

institutional credit (80%) or non-credit (70%) for successful completion of remedial and developmental courses taken. Table 27 summarizes the type of credit awarded to remedial and developmental courses.

TABLE 27. Type of credit awarded developmental courses

Type of credit offered	Yes	Percent	No	Percent
Institutional Credit	8	80	2	20
Non-Credit	7	70	3	30
Credit Toward Degree	4	40	6	60
Independent Study (Courses)	2	20	8	80
Independent Work (Mastery Learning)	3	30	7	70
Transfer To Other Courses	1	10	9	90

N=10

Teaching style Responses to question 28 revealed that students enrolled in remedial and/or developmental courses are primarily taught utilizing an individualized instructional approach (80%) and through group discussion (60%); with lecture identified as the teaching style least likely to be found. See Table 28 for frequencies of teaching style in developmental courses.

Written objectives Six out of ten (60%) respondents answered affirmatively to the question "Does your college provide the student with written objectives for student

TABLE 28. Teaching style in developmental courses

Type of credit offered	Yes	Percent	No	Percent
Individualized	8	80	2	20
Group Discussion	6	60	4	40
Student Centered	4	40	6	60
Lecture	2	20	8	80

N=10

development in vocational education courses?" One respondent explained that written objectives were provided in all vocational education departments.

Access to learning disabled student services Are the needs of learning disabled students different from the rest of the student population? Question 39 asks the respondent to identify other student populations that have access to the services provided for learning disabled students. Eight out of nine (88.9%) survey participants answered affirmatively to this question. More than one half (55.6%) of the survey respondents stated that all of the currently enrolled students have access to the services available to learning disabled students. And, eight out of nine respondents (88.9%) stated that all students with the exception of those seeking Associate of Arts (A.A.) and Associate of Science (A.S.) degrees have access to the

services provided for learning disabled students. One (indicated in "other") stated that no other populations have access except students enrolled into transitional programs. Additional comments stated that traditional students also had access. See Table 29 for a summary.

TABLE 29. Student populations enrolled into educational programs with learning disabled students

Student populations	Has Access	Percent
Returning Adults	8	88.9
Disadvantaged	8	88.9
Other Handicapping Conditions	7	77.8
International	7	77.8
Continuing Education	6	66.7
Transfer	5	55.6
Other	1	11.1

N = 9

Description of staff

Because of inconsistent reporting, none of the statistical data on the number of support personnel and characteristics of personnel could be calculated. However, general information indicated the following: (1) employees have the option to attend workshops and conferences at the expense of the college; (2) on-campus in-service training is available on seven out of eight (87.5%) campuses; (3)

more counselors than faculty consult in human development; and (4) four out of eight (50%) institutions have at least one person hired to serve only learning disabled students on their campuses.

Evaluation

Formal and informal procedures appraising departmental programs, courses, and students assist administrators determine the effectiveness of their programming efforts. The section below describes the procedures utilized to formally and informally evaluate educational programs, courses, and students' progress.

Departmental programs and courses Six respondents (60%) declared that support services and their corresponding instructional staff have been formally evaluated during the 1987-1988 fiscal year. Precisely 50% reported that courses and diagnostic/placement had also. Refer to Table 30 for a summary of the departments that have been formally evaluated this fiscal year.

When asked the avenue used to formally evaluate courses and programs, 70% of the survey respondents replied "student follow-up procedures", 60% indicated "change of test scores". According to the respondents courses and programs were least likely to be evaluated utilizing student attitudes as criteria (30%). It should be noted that

TABLE 30. Special services that have been formally evaluated during the 1987-1988 fiscal year

Evaluated services	Yes	Percent	No	Percent
Instructional Staff	6	60	4	40
Support Services	6	60	4	40
Curriculum (courses)	5	50	5	50
Diagnostic/Placement	5	50	5	50
Departmental Program	3	30	7	70
Recruitment	3	30	7	70

N=10

"changes in student attitudes" was the third most frequently identified perceived educational goal for learning disabled students (refer to Table 6). Table 31 summarizes the frequency of responses for the method of formal evaluation for courses and programs.

TABLE 31. Frequency of responses for formally evaluating departmental programs

Method of evaluation	Yes	Percent	No	Percent
Change in test scores	6	60	4	40
Change in student attitude	3	30	7	70
Follow-up of students (job)	7	70	3	30
Student reactions to programs	4	40	6	60
Other: (Specify)	1	10	9	90

N=10

Informal evaluation of departmental programs was obtained by asking the survey respondents to rate the effectiveness of their departmental programs which serve learning disabled students (question 37). Utilizing a five point Likert scale (ranging from very effective to not effective), the average survey respondent rated the overall effectiveness of their departmental programs as "somewhat effective". Independently, recruitment (2.44) and admissions (2.44) were rated most effective, while instructors (1.89), counselors (2.11) and classroom materials (2.11) were rated least effective. Table 32 summarizes the respondents' collective opinion of the effectiveness of their departmental programs.

TABLE 32. Frequency of responses for the effectiveness of departmental programs

	Effective						
	Very				Not	Statistic	
Departmental program	1	2	3	4	5	Mean	SD
Recruitment	2	2	4	1	0	2.44	1.01
Admissions	1	4	3	1	0	2.44	.88
Curriculum	2	4	2	1	0	2.22	.97
Instructors	4	2	3	0	0	1.89	.92
Counselors	3	3	2	1	0	2.11	1.05
Administrators	3	2	3	0	1	2.23	1.32
Classroom materials	3	2	4	0	0	2.11	.93

N=9
Grand Mean 2.21
Grand SD .195

Another method of evaluating program effectiveness involves asking the students with known disabilities to evaluate the departmental programs and courses in which they were enrolled upon completion of their respective programs. The respondents were asked if exit interviews were conducted at their institutions. Only half (50%) of the survey participants indicated that students which have successfully completed their educational programs (i.e., graduates) were interviewed in their respective schools. While 100% of the respondents indicated that withdrawing students from the college have exit interviews. No other method of obtaining evaluational information from the student population was indicated. See Table 33 for frequencies of responses.

TABLE 33. Frequencies of responses for student populations to whom exit interviews are conducted

Exit interviews are are completed on	Yes	Percent	No	Percent
Student completers	5	50	5	50
Withdrawing students	10	100	0	0
Other	0	0	10	100
N = 10				

Table 34 summarizes the participant's responses to question 32 (How are courses/programs for learning disabled

students evaluated?). Seven out of ten (70%) of the survey participants stated that courses or programs for learning disabled adults were evaluated through student follow-up on the job or in college While 60% of the responses indicated course evaluation was conducted through changes in test scores.

TABLE 34. Method of measuring a learning disabled student's course progress

Method of evaluation	Yes	Percent	No	Percent
Change in Test Scores	6	60	4	40
Change in Student Attitude	3	30	7	70
Job/College Follow-up	7	70	3	30
Evaluation Forms	4	40	6	60
Other: (Specify)	1	10	9	90

N=10

Students When asked to compare handicapped students with traditional students in the areas of social skills, vocational courses, and developmental courses, the respondents indicated that handicapped students compare more favorably in developmental and vocational courses, as well as in the area of social skills. See Table 35.

One method of measuring student satisfaction and academic progress in courses and departmental programs is through annual follow-up procedures. Question 33 asks the

TABLE 35. Comparison of handicapped and traditional students

Student comparison	Satisfactory: Not 1	2	3	4	5	6	7	8	Highly 9	Statistic: N	M	SD
Vocational courses												
Handicapped students	0	0	0	0	1	1	3	0	2	7	7.14	1.46
Traditional students	0	0	0	1	3	1	2	0	0	7	5.57	1.13
Social skills												
Handicapped students	0	0	0	0	2	2	2	1	1	8	6.62	1.41
Traditional students	0	0	0	3	2	0	2	1	0	8	5.50	1.60
Developmental courses												
Handicapped students	0	0	0	0	1	1	4	0	1	7	6.86	1.21
Traditional students	0	0	0	2	1	3	0	1	0	7	5.57	1.40

respondents to specifically identify the counseling areas in which student progress is followed on an annual basis. According to 70% of the respondents, the academic progress of currently enrolled students is annually reviewed by counselors and follow-up procedures are undertaken. Less than half of the vocational (30%) and personal (20%) counseling efforts were followed-up on currently enrolled students.

When a student is no longer enrolled (i.e., graduates, drop-outs, and stop-outs), the largest percentage of respondents (60%) reported that annual follow-up procedures were most frequently conducted for graduates. Again, less than half of the students no longer enrolled were contacted

to reveal student satisfaction and/or academic progress. Refer to Table 36 for frequency of participant responses.

TABLE 36. Areas in which annual student follow-up procedures are conducted

Follow-ups	Yes	Percent	No	Percent
vocational/career counseling	3	30	7	70
personal/emotional counseling	2	20	8	80
academic progress counseling	7	70	3	30
graduates	6	60	4	40
stop-outs	2	20	8	80
drop-outs	3	30	7	30

N=10

In remedial and developmental classrooms, survey respondents reported that course achievement is measured by providing students with course objectives at the beginning of the semester (60%), and by allowing students more than one term to master a topic (60%). It should be noted that pretesting and paper and pencil tests are utilized 50% of the time which may or may not be taken from stated course objectives. See Table 37 for respondent frequencies.

Out-of-class activities Answers to question 29 indicate that learning disabled adults, overall, have low participation in extra-curricular activities. Greater participation is found in athletics (4.44) and clubs and

TABLE 37. Objective methods utilized to evaluate academic progress for learning disabled students

	Yes	Percent	No	Percent
Course objectives	6	60	4	40
Extended mastery time	6	60	4	40
Pretesting	5	50	5	50
Other than paper and pencil	4	40	6	60
Test items from objectives	4	40	6	60

N=10

organizations (3.89) and special support groups (3.67). Activities of least participation was found in special interest groups (2.25), student government (2.44) and fine/performing arts (2.56) and See Table 38 for frequencies of responses.

When asked to name the extra-curricular activities learning disabled students were encouraged to participate seven respondents (77.7%) replied clubs and organizations, and six participants (66.6%) indicated athletics and other school related activities, respectively. Least encouragement was given to participate in special support groups. Table 39 summarizes the survey participants' responses.

TABLE 38. Degree of learning disabled student participation in extra-curricular activities

Out-of-class activity	Participation Low 1	2	3	4	5	6	7	8	High 9	Statistic N	M	SD
Clubs and organizations	1	3	1	1	1	0	1	0	1	9	3.89	2.67
Special interest groups	2	4	1	0	1	0	0	0	0	8	2.25	1.28
Fine/performing arts	4	1	2	0	1	1	0	0	0	9	2.56	1.89
Special support groups	1	2	1	2	2	0	1	0	0	9	3.67	1.87
Athletics	1	3	0	1	1	0	1	1	1	9	4.44	2.96
Student government	3	4	0	1	0	0	1	0	0	9	2.44	1.94

TABLE 39. Out-of-class activities which the administration encourages adults with learning disabilities to participate

Activities	Yes	Percent	No	Percent
Clubs and organizations	7	77.8	2	22.2
Athletics	6	66.8	3	33.3
Other	6	66.8	3	33.3
Fine/performing arts	5	55.6	4	44.4
Special interest groups	5	55.6	4	44.4
Student government	5	55.6	4	44.4
Special support groups	4	44.4	5	55.6

N=9

Meeting Future Educational Needs

To answer this research question, the perceived and current educational goals are compared with information reported in the review of the literature (Chapter 2) to discover areas of concentration for future strategic planning efforts. It is divided into the following sections: (1) departmental programs; (2) courses; (3) funding; and (4) out-of-class activities.

Departmental programs

In this section, each of the departmental programs identified by the survey respondents in research question 2 are analyzed for suggested future strategic planning efforts. It is divided as follows: 1) enrollment and recruitment, 2) counseling services, 3) diagnostic assessments and placement, 4) staffing, 5) developmental education department, and 6) learning resource center.

Enrollment and recruitment Several respondents were unaware of the enrollment statistics of the 1985-1986 and 1986-1987 fiscal years. This information would be beneficial to special needs coordinators when determining and projecting trend nd cost analysis. Statistical information obtained from local education agencies on expected graduates would also be helpful.

Retention of currently enrolled handicapped students may be increased if annual follow-ups and exit interviews were conducted for all students with known disabilities, particularly those students leaving school (refer to Table 36) regardless of the reason.

Community colleges can expect an annual increase in the number of learning disabled student applicants for the following reasons: (1) the number of high school graduates are increasing (Department of Education, 1987, 1985b), (2) handicap student enrollment into two year colleges is increasing (survey questions three and four), (3) census reports have indicated that outward migration of Iowa's citizens is decreasing, and (4) changes in Iowa's Regents universities' admissions standards has made the enrollment of students with learning disabilities into four year institutions more difficult.

Because of these findings, stronger efforts must be established to equalize recruitment for learning disabled students (refer to Table 12). Collaborative efforts with the Regents institutions and community employers may also be beneficial in the identification and recruitment of learning disabled adults.

Counseling services Survey respondents agreed in research questions 1 and 2, that the education of students

with learning disabilities cannot be reduced to the acquisition of academic and vocational skills. The educational goals selected to be of primary importance includes a counseling component. Therefore, counseling is perceived as an essential element in the education and development of learning disabled students and counselors have a definent role to play.

Table 40 categorizes each of the most frequently identified needed skills according to Bloom's taxonomy of domains (Wolansky, 1985). Academic skills (addressed by academic and vocational instructors) primarily are categorized in the cognitive domain, and personal, interpersonal, and social skills (addressed by counselors) are primarily categorized into the affective and perceptual domains. From this table, one can determine the importance of counseling in the education and development of learning disabled adults. Yet, the counseling department was not considered by the survey respondents to be very effective

Diagnostic assessments and placement Specific diagnostic tools have been identified in the literature that are appropriate for the diagnosis and assessment of a learning disability for adult populations (see Appendix B for listing). A combination of achievement and intelligence has been identified by law as the appropriate procedure.

TABLE 40. Skill development according to Bloom's taxonomy

Essential skills according to the literature [a]	Corresponding domain [b]	Perceived needs of LD students in IA's community colleges [c]
Reading	Cognitive	Vocabulary
	Cognitive	Written expression
Mathematics	Cognitive	Fractions
	Cognitive	Word problems
	Cognitive	Percentages
	Cognitive	Decimals
	Cognitive	Sequencing
Communication	Cognitive	Verbal expression
	Cognitive	Being more assertive
	Perceptual [a]	Speaking more/less frequently
	Cognitive	Select appropriate words
	Perceptual [a]	Expressing opinions
	Cognitive	Learning to listen
	Cognitive	Word retrieval
	Perceptual [b]	Communicating affection
	Cognitive	Following directions
	Cognitive	Memory
	Perceptual [b]	Conversational situations
	Perceptual [b]	Understanding humor
		Non-verbal communication
Vocational skills	Perceptual [b]	Interviewing for a job
	Affective [b]	Finishing work on time
	Affective [b]	Taking criticism
	Affective	Being on time
	Cognitive	Filling out job applications

TABLE 40. (Continued)

Essential skills according to the literature	Corresponding domain	Perceived needs of LD students in IA's community colleges
Daily living skills/ interpersonal skills	Affective	Personal appearance
	Affective	Managing emotions
	Affective	Respecting others
	Affective	Meeting Responsibilities
Personal skills	Affective	Self-concept
	Affective	Self-confidence
	Affective	Self-esteem
	Affective	Sensitivity to others

a= Hoffman et al., 1987; ACLD, 1982
b= Wolansky, 1985
c= survey question 25. Refer to Tables 7-10.

Those assessments acknowledged by the survey respondents in research question 2 can primarily be categorized as achievement/performance tests. There was only one institution that indicated the use of an assessment tool that correlated with intelligence quotient scores, or administered an intelligence test itself (refer to Table 22). In the future, community colleges should strongly consider the purchase of appropriate diagnostic measures and the hiring of personnel to administer them (see Table 41).

The survey respondents also maintain that they are the individuals who make the final determination of the existence of a handicapping condition, yet they also

indicate that they do not have much input in the admissions process of individuals who are admitted or recommended for remedial and developmental services housed in their own departments (Refer to Tables 14-16). It is recommended that further investigation of this finding be conducted within each community college.

Staffing The staffing needs of community colleges should reflect the current and perceived educational needs of the students. Although it is common for community college administrators, faculty, and staff to undertake the duties in several titles, specific background knowledge is required for effectiveness and in some instances mandatory. Table 41 recounts the skills most needed by learning disabled students and matches those skills with certified personnel as identified in the Dictionary of Occupational Titles as mandated by PL 94-142. However, it should be noted that "who has primary responsibility for [skill development] is not as important as ensuring that the learning disabilities program and [other departments] work together in a facilitative manner" (Murphy, 1985, p. 28). This table does not reflect the hired personnel in high school transitional programs.

Developmental education There is a slight but distinctive difference between remedial education and

TABLE 41. Comparison of needed skills and the certified professional personnel associated with those skills

Needed skills	Certified Personnel	Found in 1 or more of IA's 2 yr. colleges
Academic skills	Academic instructors	X
	Special education instructors	0
	Adult basic education instructors	X
	Peer tutors	X
Vocational skills	Vocational instructors	X
	Voc. ed. special needs instructors	0
	Career counselors	X
	Voc. rehab. counselors	X
	Placement officers	X
	Peer tutors	0
Personal skills	Psychologists	0
	Human development specialists	0
Interpersonal skills	Counselors (marriage and family, financial, etc. with the exception of school counselors)	N/A
Communication skills	Speech pathologists	N/A

TABLE 41. (Continued)

Needed skills	Certified Personnel	Found in 1 or more of IA's 2 yr. colleges
Evaluation personnel	Psychologist	0
	Speech pathologist	N/A
	Special education instructor	0
	Vocational instructor	X
	Voc. ed. special needs instructor	0
	Eye examiner	N/A
	Audiologist	N/A
	Student advocate	N/A

CODE:
1 = identified in the literature
N/A = no specific question to identify existence
X = included in one or more of Iowa's community colleges
0 = no response but a specific question

developmental education. In remedial education academic skills are taught to students unprepared for college level courses. Developmental education is for the underprepared student who has met the requirements for college entrance but is in need of review, and perhaps desires assistance in areas that would enhance the possibility of college success (i.e., study skills, human potential courses or seminars, peer and professional tutoring, and learning laboratories). Thus, developmental educators take a more "wholistic" approach to education, whereas remedial educators are more focused on the acquisition of academic skills.

Developmental educators must become more aware of alternative avenues of accommodating student needs such as: teaching and learning styles (refer to Tables 28 and 23), mediated instruction (Keppel & Chickering, 1981), and methods of evaluation (refer to Table 36) not only for learning disabled students, but also for traditional students enrolled in developmental education courses.

Department heads should design and implement a formal evaluational instrument that would divulge current program effectiveness. This system might include: (1) college mission, goals and objectives; (2) student input from course evaluations; (3) annual follow-up procedures, and exit interviews (refer to Tables 32 and 33), and (4) retention and attrition rates.

Departmental heads should also become more involved in governance to "show-off" their success records, which may assist in increases in appropriated funds and community resources (refer to Table 34).

Learning Resource Center Learning resource center directors' reasons for non-participation in this study is evidence of the need for educational training and development on the topics of "characteristics of learning disabled students" and "improved methods of interdepartmental communication". They stated that the

Learning Resource Center does not serve learning disabled students, only students in need of basic education. However, it is not logical to assume that all students without a high school diploma left school for reasons other than learning difficulties. Nor is it logical to assume that students enrolled in employment training and retraining courses are not learning disabled. All students should be assessed for the possibility of having this disability.

Special needs coordinators indicated that a large percentage of learning disabled students complete their high school diplomas. Is it possible that the special needs coordinators know something that learning resource center directors do not? Could there be a lack of interdepartmental communication between these two departments? Or is there a sense of "turfdom" which prohibits the overlapping of students? Whatever the reason, it is recommended that opportunities for professional development activities (which includes such topics as the college's mission, goals and objectives, improved interdepartmental communication, and characteristics of learning disabled students), be explored.

Courses

In this section, the courses identified by the survey respondents in research questions 1 and 2 are correlated

with the literature to suggest areas requiring future strategic planning. It is divided in the following sections: (1) academic and vocational courses, and (2) human development courses. Methods of evaluation of academic and vocational courses could be improved (refer to Tables 18, 33-37). Although 50% of the survey participants stated that their courses have been formally evaluated this fiscal year, the method of evaluation is undiscernible.

The relative importance of formal evaluation is readily identifiable during the funding process. To obtain reimbursement, the college is to provide the State proof of course existence and evaluational documentation of its effectiveness. It could be possible, and is not unlikely, that the special needs coordinators do not know what or how to evaluate their programs or what is to be included in the informational package requested by the State. Again, professional development in evaluation is essential.

Human development courses Few courses or seminars are offered fostering social, personal, interpersonal, and daily living skill development (refer to Table 25). A discrepancy exists when one investigates the perceived educational goals. "Changing attitudes toward school" was a perceived educational goal of greater importance. Learning disabled student participation in out-of-class activities is

low (refer to Table 37). How are these students expected to learn essential skills for future employment? Future planning in the area of social skill training and support groups and should be approached as a basic skills subject.

Funding

A large portion of survey respondents identified learning disabilities in the top one-third of handicapping condition enrolled in their institutions. Yet, less than 10% of the budget is allocated to the educational needs of this population. In Table 13, survey participants reacted to the method of allocation of Carl Perkins Vocational Education Act funding. Six out of ten survey participants (60%) stated that funds should be specifically targeted to educating learning disabled students. Yet, the special needs coordinators have indicated that they have had little to no experience teaching students with disabilities, nor have many of them had courses which would assist them in the characteristics of learning disabled students. In this instance, funding should be allocated to developing expertise in the area of education and identification of students with learning disabilities. Development appears to be apparent.

Half of the participants believed that their institutions could match the funds. With outward migration

a great source of revenue is leaving the area. How is it expected for these institutions to obtain matching funds when the people are not there? Therefore, these institutions must ask for fewer dollars than they really need and in the following year will receive less money because the amount of allocation is determined by the number of students enrolled the previous year. This appears to be a "catch 22" situation which the State needs to examine.

Out-of-class activities

According to Table 25, few courses are offered to improve the personal, interpersonal, and daily living skills of learning disabled students. This finding reflects the colleges' perception of its importance. Even fewer courses have incorporated into the syllabus time to practice the information taught. How would the students have a opportunity to practice these needed skills?

Students with disabilities have access to a wide variety of out-of-class activities but do not take advantage of the opportunities provided to gain from these experiences. Community college personnel should question the reasons participation is low.

Are the colleges attempting to reach out to these students? This question can only be answered when colleges evaluate the activities. Since out-of-class activities can

be more quickly created and changed to meet new needs than can formal academic programs, the probable answer would be to evaluate the current activities to ascertain the reason for low participation by learning disabled students.

DISCUSSION

Introduction

In order to develop a survey instrument that would yield the essential information of this study, the researcher completed an extensive review of the literature. The questions included in the survey were compiled and administered according to the suggestions outlined in Dillman (1978) and Borg and Gall (1983). However, several difficulties were encountered.

While this researcher hesitates to state that the special needs coordinators performed in an unprofessional manner, the low proportion of returned surveys does point to nuances of underlying problems. One such conceivable problem is overprotectiveness on the part of the special needs coordinators. This study could have been perceived as a means to undercut or denounce the efforts and progress of their institutions. They study could also have been perceived as unimportant and trivial to their immediate needs. Thirdly, it could have been (as stated in the follow-up telephone conversations) that the information required was unavailable or inaccessible.

The lack of participation could also be traced to the questionnaire itself. The survey questions could have been

presented in a less complex format. As a result, an abundance of missing data sparsley scattered throughout the questionnaire was immediately evidenced. Upon further analysis patterns developed. A large portion of missing data was found in questions utilizing continuous scales. Some of the survey respondents skipped entire questions with a few stating that they did not understand the question.

It was also noted that survey participants with larger proportions of missing data also did not complete the questions pertaining to educational background and professional experience. These findings could be indicative of underlying problems in the credentialling process - a major duty of administrators.

The wording of questions which required percentages seemed to cause particular difficulty for the respondents which caused the researcher to eliminate individual responses from analysis. Question 31 was entirely eliminated from the study for this same reason. In the future, those questions requiring percentages should be reworded to reveal a total number as opposed to a percentage.

Whatever the reason for low participation, the results of this study cannot and should not be generalized to the total population of Special Needs Departments housed in

Iowa's community colleges. The information contained within can only be utilized as a guide to measure individual and respective college progress.

Educational goals

More interesting is the selection of educational goals considered by the survey respondents to be of relatively lesser importance.

Interpersonal skills has been identified in the literature as being one of the major problems of adults and children with learning disabilities (Longo, 1988; Hoffmann et al., 1987; Ross, 1987; Hartman et al., 1983). Impulsivity, dependence on others and language deficits effects a student's ability to interact with peers, associates and persons of authority. And it is the lack of these skills that employers complain most (Parnell, 1985). It's also an area that learning disabled students desire help (Hoffmann, et al., 1987; ACLD, 1982).

Competence in daily living skills requires a combination of current knowledge, associative skills and problem solving skills - higher levels of cognition practiced in everyday situations (Wolansky, 1985; Knowles, 1984a, 1984b; Miller & Jones, 1981). Without daily living skills the student "becomes learned but gains little experience in coping with practical realities" (Chickering, 1984, p. 214).

To change a student's attitude toward school, on the other hand, requires development and acquisition of purpose (Chickering, 1981, 1984; Green, 1981). Once established, the student will have a reason to learn and remain in school, thus, the institution could expect increases of retention rates.

Survey respondents also did not choose the development of nonacademic or extra-curricular talents, as being of high importance. These activities are not required for graduation and credit is not awarded for participation, but with active participation the student can practice skills that may not have been developed in the classroom (Hartman et al., 1983, Miller & Jones, 1981).

If educational effectiveness can be increased by meeting the students "where they are" (Chickering, 1984) then all of these educational goals should have received ratings of higher importance.

Essential skills

Knowing the institution's educational goals, the respondents were asked to identify the skills learning disabled students needed to learn most. The participants' responses to this question concurred with Hoffmann's findings (1987) who sought the opinions of service providers, consumers or advocates, and learning disabled

adults themselves, on the topic of the needs of learning disabled adults.

It should be noted that in Hoffmann's study, the needs identified by service providers and those provided by learning disabled adults did not always agree. While learning disabled adults acknowledged their academic deficits (which supports the necessity for remedial programming), they most frequently desired assistance in talking, thinking, writing, and coordination - functional skills. "When the objectives of the college connect with the concerns of central importance to the student, the college will be educationally effective" (Chickering, 1984, p. 3). A study of the learning disabled adults' perception of their needs warrants further investigation.

Major obstacles

The survey respondents identified low intelligence, fear of success and interests in non-academic matters to be the least likely obstacle to learning. While special needs coordinators participating in this study may not have had much experience with learning disabled adults, their understanding of the problems seems to be on track. Refer to Table 11.

Courses

It was also interesting to note that while the provision of academic and vocational skills were unanimously highly rated, few of the participants listed those courses as being offered on their campuses. And only one school listed courses that could be correlated with "changing attitude toward self"; while daily living skills, the educational goal of least priority, gets greater attention. Refer to Table 25.

Access

Somewhat surprisingly, 100% of the respondents stated that all students have access to the programs and courses available to learning disabled students and that they are encouraged to enroll. This finding suggests legislative compliance to the concept of mainstreaming, and that the institutions surveyed perceive the needs of learning disabled students to be similar to the needs of other student category populations particularly on educationally relevant factors.

How Are Educational Needs Currently Met?

How do Iowa's community colleges currently meet the needs of learning disabled students? This question was answered by investigating: (1) commitment to mission and

philosophy; (2) funding/budgeting; (3) accessibility; (4) courses, programs, and activities; and (5) faculty sensitivity.

Mission

Mission and philosophy statements written in community college catalogs give an outsider's view of the college's commitment to its objectives (Chickering, 1984). Tracing student services procedures enlightened the researcher of internal consistency. This question focuses on "equal educational opportunity" and "quality programming".

Equal educational opportunity According to survey respondents, students with learning disabilities and traditional students have equal opportunities to the college's recruitment efforts. On the surface one can infer from Table 6 that while all recruitment efforts for both populations occur, recruitment for learning disabled students occur less frequently. Comments in "other" suggested that alternative methods were taken. Instead of working through high school counselors, recruitment officers work closely with persons having direct supervision for learning disabled students. Special education personnel, work experience coordinators, etc. are more familiar with the learning disabled student population enrolled in their schools than counselors (interview with John Struck, AEA VII Coordinator, Sept. 1986)

The open-door/open-admissions policy of community colleges in general, prohibits denial of admission into the college (Morrison & Ferrente, 1973). But Iowa's community colleges maintain the right to deny admission into selected vocational programs when success in that program is questionable (Code of Iowa, 1985). When this occurs the admissions officer refers these students to remedial and/or developmental programs and services within the college until deficit areas are ameliorated. In this instance, equal educational opportunity is available upon successful completion of educational deficits.

Admissions Access to programs and courses can be prohibited, however, by the lack of information available to admissions personnel indicated in question 17. The survey participants were asked to identify the tools admission officers utilize to determine eligibility into remedial or developmental courses. Unanimously (100%), the survey respondents identified standardized tests administered in both high school and college and previous educational records. Only 20% identified the use of high school transcripts of which a grade criterium was used. None of the respondents mentioned the use of an interview. These findings reveal inconsistencies between what is written in community college catalogs and current practices. An

interview, particularly, gives the prospective student (or new enrollee) an opportunity to voluntarily disclose a disability.

Diagnostic services A learning disability is defined as a significant discrepancy between intellectual potential and academic achievement (Longo, 1988; Ross, 1987; Department of Education, 1985a). Program selection and the choice of intervention strategies must be based on the results of a comprehensive and integrated assessment of the individual, that will provide a description of specific patterns of abilities and disabilities (Department of Education, 1986-1988; Department of Education, 1985a). Standardized intelligence and achievement tests must be used to determine such a disability (Department of Education, 1985a). Yet, only one institution reported the use of both assessment tools. A large proportion (90%) of the survey respondents reported the use of achievement tests only. If placement is determined upon the results of achievement assessments alone, there is high probability of misplacement particularly in vocational educational programs.

Interpretation of test results is also a crucial factor. Three respondents reported cut-off criteria that may indicate, when combined with other test information, the possibility of a learning disability. The first institution

indicated the use of grade levels, and the second a percentile score. Both of the methods are inappropriate comparative measures and are subject to misinterpretation.

Since funding is based on the number of students served in each facility as opposed to a combined total for the State, a well coordinated and accurate identification process is extremely important. Expertise in the area of testing and evaluation is recommended.

If placement is dependent upon vocational rehabilitation assessments, the program head (who survey respondents overwhelmingly responded had the final determination of a disability) should be cognizant of the intention of vocational rehabilitation assessments. Does the assessment report indicate the absence or presence of a disability or does it indicate the student's eligibility for vocational rehabilitation services?

Quality programming Inadequate communication and educational training of administrators has interfered with the college's mission of "quality programming" and was demonstrated by the researcher's efforts to increase survey participation.

PL 94-142 mandated "free and appropriate education" throughout the K-12 system. Students benefiting from support services or because of age limitations, graduated from high school beginning approximately 1980.

Confidentiality constraints, such as those found in the Buckley Amendment, burdened the student with the responsibility of disclosing their disability and prohibited the forwarding of that information to other personnel without prior student permission. Special Needs Coordinators, the special services program head, explained questionnaire delays (in follow-up telephone conversations) to unavailability of required information. "The questionnaire was sent to personnel who had access to the information. I don't know where it is now." This finding implies the necessity for greater communication procedures among and between administrative personnel.

Prior to the enactment of PL 94-142, learning disabled students, frustrated with their lack of school progress, had no alternative but to drop out of school. Employer demands for high school graduates in entry level positions lead these students to educational programs from which they could obtain their general education diploma (GED). Adult basic education is provided in all of Iowa's community colleges. Yet, Learning Resource Center directors, the program heads for adult basic education, explained, in follow-up telephone communications, the population they serve does not include learning disabled students. Interestingly, special needs coordinators identified a percentage of learning disabled

student who had completed their GED programs. This finding implies the necessity of professional development activities, either in the form of in-service training, formal college courses, or off-campus conferences.

The concept of "quality programming" is impeded by the lack of: (a) administrative and faculty expertise and (b) insufficient assessment told to determine the existence of a specific learning disability, as well as a greater need for interdepartmental communication.

Access and admissions Access to programs and courses can be prohibited, however, by the lack of information available to admissions personnel indicated in question 17. Few community colleges maintain admissions requirements because of the open-door/open-admissions policy (Morrison & Ferrente, 1973), but, Iowa's community colleges maintain the right to deny admission into a selected vocational program when success in that program is questionable (Iowa Code, 1985). The survey participants were asked to identify the tools admission officers utilize to determine eligibility into remedial or developmental courses. Unanimously (100%), the survey respondents identified standardized tests administered in both high school and college and previous educational records. Only 20% identified the use of high school transcripts of which a

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Funding and budgeting One of the major concerns of practioners to the Rehabilitation Act is the extent to which the institution must comply to the "reasonable accommodations" mandate. Iowa's community colleges should

be applauded for its attempts to diagnose a student with an unknown disability, but most of all for absorbing the cost of assessment conducted on campus.

Unfortunately, most of the colleges assessments are virtually worthless. The State of Iowa has determined that the existence of a learning disability must be determined through the use of both an intelligence and achievement test which would ultimately discover a discrepancy between the two. Because many of the community colleges do not use both assessment tools, recommendations for remediation is unfounded. This finding does indicate, however, that the college maintains its commitment to quality programming.

Survey respondents also indicated that vocational rehabilitation is the outside agency to which students are most frequently referred. Collaborating with a community agency that is also willing to absorb the cost is commendable and encouraged in the State Plan.

Vocational education programs Instructors are often the first persons to suspect the presence of a learning disability. Evidence supported by 90% of the survey participants indicated dependence on instructor recommendations for initial identification purposes.

Developmental education programs Various legislative Acts (Federal Register 1977a, b; H. R. Rep. No.

4164, 1984) mandate and promulgate the mainstreaming of students with learning disabilities into the "least restrictive environment". A majority (55.6%) of the survey respondents stated that all students have access to all of the services available to learning disabled students. Whereas 88.9% stated that all students with the exception of students seeking Associate of Arts (A.A.) and Associate of Science (A.S.) degrees have access to the services provided for learning disabled students. This finding indicates an integration of student abilities in developmental education courses.

Student activities One of the implied purposes of higher education is to help students become more self-directed in their learning and other behavior. "Research has repeatedly shown that out-of-class experience has a major impact on college students - emotionally, socially, morally, and physically, as well a mentally.... For such reasons, out-of-class education cannot be viewed merely as supplementary to the curriculum in carrying out the educational mission of the American college but rather must be seen as an integral part of its educational program" (Miller & Jones, 1981, pp. 657-658). It offers the student the opportunity to practice previously taught skills and provides the student a means of incorporating methods of independent learning (Miller & Jones, 1981).

All of the community colleges surveyed indicated that out-of-class activities occur on their college campuses and that students with learning disabilities are encouraged to participate.

Courses, programs and activities

What courses, programs and activities are incorporated into the curriculum for learning disabled students? In this section the existence of courses, programs and activities was determined and compared with the perceived needs identified in research question 1.

Departmental programs provided When analyzing questions 7-9 it became evident that Iowa's community colleges most frequently utilize a "comprehensive design" (Rousche & Snow, 1977) under which academic and support services fall. For example a "special administrative unit" would probably be termed "student services" and all aspects of student life would then be considered departmental programs - "special needs", "admissions and counseling", "learning resource center", etc.

"Traditional student services and academic support services that readily lend themselves to these programs include advising and counseling, admissions testing and diagnostic and placement testing programs, career planning programs, student activities and student union programs,

living group programs, and developmental skills programs, including reading and writing skills, study skills, library use and class participation skills, time management and concentration skills, test anxiety-reduction skills and other skills essential to being a successful student" (Miller & Jones, 1981, p. 259).

According to the survey respondents, these services are provided as departmental programs on 80% of the college campuses. The current programs provided (pretesting, evaluation, and curriculum placement; counseling services; veteran's administration; vocational rehabilitation; developmental education, and high school transitional programs) fused with the stated perceived educational goals (to provide academic and career/vocational skills; and to change attitudes toward self).

Courses provided Course titles equally compliment the stated perceived educational goals. However, one must take a closer look at methods of implementation in order to ascertain whether the courses offered are meeting students' educational and developmental needs.

The highest percentage of survey participants (80%) described developmental courses as full semester (quarter) courses in which the student receives institutional credit for individualized instruction. While on the surface this

format may be appealing, unobtrusive measures denote the contrary.

A full semester course implies that the student will master the required skills in a specified amount of time. Only 30% of the survey participants indicated that developmental education courses may extend the entire year; or that courses may be taken until mastery is obtained.

Transcripts record student progress in courses awarding institutional credit as satisfactory/unsatisfactory or pass/fail grades. These grades give the student a false impression of course progress. To ameliorate this situation the instructor should assess student progress more frequently, and use alternative methods of evaluation (Decker, Polloway & Decker, 1985; Wolansky, 1985).

Six of (60%) the survey respondents stated that students' progress is evaluated according to course objectives, but only 40% tested from those stated objectives. It was found that 50% administer pretests to the student, and 40% utilize assessment tools other than paper and pencil tests.

The purpose of individualized instruction is defeated when the instructor is not aware of the student's preferred learning style. Only three institutions (30%) indicated testing for this information. Further, learning disabled

students have a tendency to exhibit dependence on others. Individualized instruction reinforces dependent behavior. A student centered teaching approach is more appropriate for adults with disabilities (Knowles, 1984a, 1984b).

In most instances, developmental courses are awarded institutional (80%) or non-credit (70%) status. Institutional credit is not credit toward a degree, but when taken, the number of credits awarded is counted for financial aid purposes. Credit awarded in this manner fosters student feelings of belongingness; that the institution is interested in the student's success and does not punish them for not knowing the information. Courses of non-credit status could be rewarding if the courses are taken free of charge to the student. When the student must pay for a course that does not apply towards the degree and no evidence of time spent is indicated on the transcript, the student may feel as if he/she is being punished. Prior school frustrations permeate student self-esteem and self-confidence which inevitably leads the student to drop out of school.

Evaluation Six of (60%) the survey respondents reported that instructional staff and support services have been evaluated this fiscal year. Five respondents (50%) have reported course evaluations. The reverse of this is 40% of the instructional staff and support services have not

been evaluated and 50% of the courses. This finding has grave implications for both funding and future programming. Further discussion on finding is found in the subsection "Funds". One thought must be taken into consideration--when the survey respondent returned the survey. Since the majority of the respondents returned the survey by mid November, this collective response is, by far, more positive.

Survey respondents rated the departmental programs for effectiveness. Overall the programs were rated "somewhat effective". Independently, instructors and classroom materials were rated most effective, and counselors and administrators were rated least effective. This finding indicates displeasure with administration and the counseling of students.

Student activities Survey participants agreed that learning disabled students have access, though low participation, to out-of-class activities. An interesting finding presented by 50% of the respondents is the low encouragement of participation into special support groups. Social skills deficits such as impulsivity, shyness, dependence upon others, difficulties in making and keeping friends, anxiety when in conversational situations (Hoffmann et al., 1987; Hartman et al., 1983; Ross, 1988) make

participation into this particular student activity of high importance, but is consistent with the respondents' view of the importance of interpersonal and daily living skills as an educational goal.

From these findings, the research suggests that the community college's mission and philosophy breaks down upon reaching the level of courses provided which is probably due to a lack of faculty, counselor and administrative expertise in the area of learning disabilities.

Funding

Is the current funding procedure adequate for curriculum adjustments required to educate learning disabled students? This section investigates community colleges' financial resources.

Carl Perkins Vocational Education Act funds Carl Perkins Vocational Education Act funds are targeted to the vocational education needs of unserved and underserved populations which includes handicapped students. And, funds are allocated to the State based on a formula (Section 203 [ii]of the Act).

All programs, services and activities for handicapped students requires matching funds in the form of cash (in-kind services can only be used for disadvantaged students). Each community college requesting assistance under this Act

must submit an application to the State Department of Education. After programs and services are implemented and evaluations are submitted, reimbursement is provided (Iowa State Plan, 1986-1988).

There is a possibility that the institution will not receive the full amount applied for, in which case efforts must be made to pool their dollars from local agencies and school districts.

In question 13, the respondents were asked their feelings of the distribution of these funds. Overwhelmingly, the survey respondents affirmed the use of Carl Perkins monies. Yet eight out of nine (88.9%) respondents indicated that the monies received was not sufficient to meet current needs. This finding could indicate that the reimbursement procedure, mandated by the State Plan places undue hardship on the college, especially if the total amount reimbursed is less than the amount applied for.

When asked if the college was able to match funds, five out of ten respondents (50%) indicated that they were able to do so. This finding indicates that the pooling of funds could be more difficult than previously expected.

When asked if the money should be targeted to handicapped students, seven out of eight (87.5%) survey

respondents stated, "yes". And, six out of nine (66.7%) believed that targeting directly to learning disabled students was a good idea.

Summarizing these findings lead the researcher to believe that while community colleges are happy to obtain Carl Perkins Vocational Education funds, the survey respondents feel that the State's method of distribution could be improved.

Funding sources Competition for diminishing financial resources has fostered separatism and territoriality among professional education and training programs within institutions of higher education. This finding is evidenced in the follow-up comments of learning resource center directors and special needs coordinators. Special needs (a vocational education concern) and adult basic education (a continuing education concern) receive funding from overlapping, if not different sources. For learning resource center directors to say that they do not serve students with learning disabilities is to indicate that if they do, they are "stealing the students" from another department. This may be a problem of perception of territory and may indicate the need for in-service training. The nature of the institution's mission, history, curriculum, teaching, and administrative practices should be emphasized.

Faculty sensitivity

Is the faculty sensitive to the needs of learning disabled students? Although faculty sensitivity to learning disabled students' needs could not be statistically measured, evidence indicates that each of the community colleges have in their employ at least one individual with some knowledge of disabilities. In-service workshops on remedial and developmental education are available, and faculty and staff are permitted to attend conferences on remedial and developmental education at the college's expense.

Progress in this area may be explained by the findings of the FINE and Urban reports which maintain that remedial education is best served at the community college level. Increased attention to raising admission standards at Regent's institutions could initiate long range planning for student overflow. Within the past ten years, national and regional conferences have directed attention to remedial and developmental education and difficulties with educating learning disabled students. For these reasons, it may be that Iowa's community college administrators are focusing in on the problem and are encouraging their personnel to increase their knowledge of the topic also.

But the lack of expertise is blatant. Federal guidelines (Education for all Handicapped Children Act, Rehabilitation Act, and Carl Perkins Act) required identification and assessment of a learning disability to be accomplished by a team of licensed or certified professionals which could include: (1) a psychologist - the only professional certified to administer and interpret intelligence and neurological tests; (2) a speech pathologist - the professional assigned to diagnose the existence of a language disability, (3) an audiologist - the professional assigned to diagnose the presence of a hearing disability, (4) a ophthalmologist or optometerist - the professional licensed to examine the eye, (5) a special educator - the professional most knowledgeable in the area of teaching and learning styles, characteristics of individuals with disabilities (the area of expertise for this professional is often targeted to a specific handicapping condition), and is certified to administer and interpret standardized achievement and performance tests, (5) an professor (instructor) - the professional that may refer the student for assessment because of low classroom performance, and/or (6) a physician - the professional used to determine the presence of a physical anomaly which would prevent the student from learning.

The survey results indicate dependence upon vocational rehabilitation counselors for assessment. However, one must be cognizant that assessments conducted by vocational rehabilitation reflect the need for vocational rehabilitation services. The existence of a learning disability may be present without eligibility for services, fact which may not have been explained in the report.

Summary of research question 2

How do community colleges currently meet the educational needs of learning disabled students? The findings of this research question indicate the following:

1. Academic and vocational needs - Currently community colleges have addressed the academic needs of learning disabled students to the extent of general compliance of the various legislative Acts. Specifically, fine-tuning in the areas of personnel development, teaching and learning styles, and methods of identification, assessment, and evaluation is recommended.
2. Student services - (a) The college mission of "quality programming" is impeded by a lack of personnel expertise, a lack of communication among and between personnel, and inappropriate assessment and identification procedures, (b)

there is a need for greater involvement of the counseling staff with learning disabled adults, (c) increased emphasis should be placed on out-of-class activities to assist in the development of social and interpersonal skills.

3. Funding - Alternative methods to allocate Carl Perkins Vocational Education Act funds should be investigated to further assist community college personnel plan and meet the educational needs of learning disabled students.

Planning For Future Curricula Needs

Knowing the perceived and current educational needs of learning disabled students, the researcher then wanted to identify areas in which future strategic planning could be beneficial. findings of this research question lead the researcher to believe that Iowa's community colleges have only made cursory attempts to educating their learning disabled students. The following comments are recommended for inclusion into future planning efforts.

<u>On the state level</u>

- Further research is recommended to: (1) Determine service providers', employers', and learning disabled adults' perceived needs of learning disabled adults in the areas of academic skills,

career/vocational skills, social/interpersonal skills, and personal skills. A study of this type will assist in determining the effectiveness of current programming and in the planning of future curricula; (2) To evaluate counseling programs for handicapped adult populations. A study of this type will determine if the counseling needs of developmental students is appropriate for adult students. (3) Determine if a discrepancy model for the determination of disability is relevant for postsecondary education. It may be that an alternative model, such as a performance model, may be a better indicator of achievement. (4) Determine standardized norms for each assessment tool used in each merged area. A study of this type would standardize a performance evaluation model.

- Publicize exemplary developmental and counseling programs for other community colleges to emulate.
- Develop a network for all persons interested in, and/or working with learning disabled students. This process could begin by tapping in on the Appalachian State University networking system.

- Identify experts (consultants) who are willing to help community colleges plan and develop programs.
- Coordinate efforts with other state agencies to enlarge your expertise pool.
- Establish a clearinghouse to identify educational software specially relevant for adults with deficits in academic, vocational, and human development skills.
- Re-examine guidelines for funding that would assist community colleges prepare for increased enrollments of Regent's schools "rejects". The funding should reflect: (a) professional development, (b) research and development of alternative instructional methods, and (c) the level of support required to serve particular populations (particularly learning disabled students).
- Provide leadership seminars for developmental education and adult basic education administrators which would encourage them to become actively involved in the governance of their institutions.
- The Department of Education should develop a procedure for more vigorious evaluation of programs and courses receiving State and Federal funding.

This procedure will ensure uniformity of required information.

- credentials for educational administrators should include at least one course in statistics which would assist in decision making and evaluation processes.

On the community college level

- Strong consideration should be given to development of an evaluational system for institutional effectiveness which would include: (1) mission and goals, (2) specific departmental programs, (3) individual student outcomes, (4) retention rates, (5) follow-up of graduates, drop-outs and stop-outs, and (6) out-of-class activities.
- Strong consideration should be given to formalized in-service training for all personnel. In-services should include: (a) attitudes regarding persons with disabilities. (There is a tendency to underestimate the abilities of the learning disabled); (b) familiarity with the learning characteristics of various disabilities and the often concurrent emotional difficulties of this population; (c) stress teaching techniques especially in the areas of cognitive and learning

styles, as well as teaching styles, (d) stress the use of mediated instruction and classroom evaluation as a method to improve teaching.

- Encourage interdisciplinary alliances with departments of developmental, vocational, and adult education, counseling, and vocational rehabilitation.
- Build relationships with local high schools by reporting back to the high school the progress of their graduates. This will enable the high schools to identify and reduce curricula deficits and establish a networking system of their own.
- Become more knowledgeable of community resources which offer expertise in particular disabilities.
- Coordinate educational programming with social service agencies (such as the Department of Health Services).
- Investigate and purchase appropriate assessment tools for the diagnosis of learning disabilities in adult populations.
- Investigate better methods of diagnosing vocational skills that would stress job-seeking skills, job interests, and work habits.

- Hire specifically trained individuals to assess and diagnose the possibility of a disability.
- Incorporate into the orientation of all students time to assess the possibility of a handicapping condition.
- Institutions should systematically assess their students' interests and developmental needs so that they can devise appropriate out-of-class activities for them, rather than assuming that all students need or will benefit from the same activities.
- Existing out-of-class programs should be re-examined and revised, if necessary, in light of their impact on the total development of all students. Similarly, specific skills and competencies essential to successful practice must be identified and developed. These programs should include participants from outside the student body, such as faculty and staff, spouses and children, and community members, to broaden students' contacts and assist in their development.
- Out-of-class activities should be coordinated with local agencies and organizations to develop a networking system and active participation with members of the greater community.

Program and department heads

- Special care should be taken in the selection and use of assessment tools.
- Encouragement should be provided for the development of informal assessments, classroom intervention strategies, and evaluation methods.
- Each administrator should take a statistics course to facilitate decision making and evaluation processes.
- Greater communication among and between departments would eliminate interdepartmental barriers and increase a sense of togetherness of a common goal.

Counselors

- Support and self-help groups are needed to overcome feelings of frustration, lack of self-confidence and poor self-concepts.
- Encourage students with learning disabilities to enroll into social skills training groups.
- The education of the learning disabled cannot stress only academics. Only when a multi-faceted approach to the total education of the learning disabled is provided will they be successfully trained to the world or work.

- Social skills should be considered and approached as a basic skill subject, one that calls for systematic planning, organization, and implementation.
- Counselors should be encouraged to develop and implement an evaluational system which would include regular follow-up procedures to chart the progress of their clients.

SUMMARY AND RECOMMENDATIONS

Perceived Needs of Learning Disabled Adults

Until the Carl Perkins Vocational Education Act, legislation pertaining to the education of the handicapped was directed to elementary and secondary education and/or to access and satisfaction in employment. Community colleges, thought founded on the premise of it being an extension of secondary school for unprepared students desiring a four year college education, had not encountered, much less been charged with the provision of education for the type of students currently enrolling into their colleges today (Cohen & Brawer, 1984; Parnell, 1985). The task is comparable only to those encountered in historically Black institutions. Unfortunately, historically Black institutions have not adequately documented their efforts, leaving community colleges to "reinvent the wheel".

But community colleges have their own history. Since the 1800s these colleges have successfully borne the brunt of poorly prepared students and have taken pride in their open-door admissions policy. Only today, with larger proportions of unprepared and underprepared students and fewer monetary resources do they cry for assistance. Thus, the purposes of this study were to: (1) identify and

describe the perceived educational needs of learning disabled adult students, (2) investigate current procedures designed to meet the perceived needs of learning disabled adults, and (3) identify avenues to proceed in the future.

Perceived educational goals and essential skills

The perceived educational goals and essential skills for learning disabled students of highest importance, naturally, were given priority. A special needs department (commonly termed developmental education) was conceived. And the special needs coordinators participating in this study unanimously agreed that the provision of academic and vocational skills should be and were addressed through reading, mathematics, and career preparation courses. The reading courses concentrated on the amelioration of vocabulary, comprehension, following direction, and written expression skills. Mathematics courses concentrated on the improvement of students' understanding of such mathematical skills as word problems, part/whole relationships (fractions, percentages, decimals), and algebra. Vocational courses concentrated on the provision of skills necessary for work (career exploration, job seeking and work related skills). Personal skill development was enhanced through study skills, orientation, and in some institutions, social and daily living skills.

However, it appears that to be able to progress beyond this point currently employed faculty and staff must become attuned to the characteristics of adults with learning disabilities for the currently utilized assessment, teaching, counseling and evaluation methods are not appropriate.

Since the hiring of new staff may present a problem, it is suggested that the majority of available monies be directed to professional development activities that would promote the mission, goals and objectives of the college as well as enhance the knowledge of administrators, faculty, staff, and students alike. Although the development of new and improved educational programs is essential, it is believed by the researcher that little progress can be made if the individuals working within these projects do not understand the ultimate goal and how to accomplish that goal.

The responsibility for providing these professional development activities should not rest entirely on the community colleges. Since this problem appears to be statewide, the State Department of Education could package sets of audio/visual materials to be disseminated to individual colleges or to be televised during convenient times for administrators to disseminate to their colleagues.

Additional formal coursework should be encouraged as well as the development and sharing of new and/or revised curriculum materials. Individual colleges may have identified persons within their employ that may have some expertise in the area and would be willing to share their knowledge with their and other colleges within the State. The State on the other hand, could import (better yet, hire) certified consultants in a variety of specialized fields from other states to meet with, be available to community college personnel, or to assist with the development of professional development materials.

Departmental programs and services

The improvment of current programs and services should be thoroughly examined in accordance to the perceived educational goals beginning with departmental programs and concluding with the successful employment of program completers.

The choice of departmental programs seems to have been appropriately based on the perceived educational needs of currently enrolled students. Each participating college appears to have in place department which focus on admissions, academic, vocational, and counseling needs. At present, there appears to be no set department that concentrates on extra-curricular activities nor is it

apparent that individual departments overlap in this or other responsibilities. Communication between and among departments is therefore vital as evidenced in the results of the admissions process and through non-participation of learning resource center directors.

Courses and services provided by individuals departments need further development. Particularly in the area of counseling. Personal and social skill development are virtually not addressed even thought it has been identified as an educational goal of high importance. Evaluation of this department is almost impossible since follow-up procedures are at best inconsistent.

Identification and assessment of students without believed to be learning disabled also appear to be an area of major concern. It could not be determined from this study who or what department was directly responsible for this area. The material utilized by the college to determine a disability are inappropriate and the qualifications of personnel administering the assessment is questionable. The choice of vocational rehabilitation to complete the assessments for the college can be detrimental or counter productive. It is suggested that assessments completed by local education agencies or private specialists who do not have a "stake" in the outcome of the assessment, would more appropriately address this need.

A uniformed means of formal evaluation must be incorporated not only for in-house purposes, but also can be utilized as a measure to increase monetary resources, both state and local. Informal student evaluations of courses and programs (either through interviews or written statements) are helpful when determining if the designated perceived need from which administrators are programming is actually addressing the actual needs of currently enrolled learning disabled students.

Legislatively, the responses of the survey participants point to the fact that Iowa's community colleges are taking measurable steps toward total fulfillment of the "letter of the law". Cursory attempts to met the educational needs of the learning disabled adults are poorly addressed seemingly because of monetary and expertise constraints. Perhaps, since Iowa's community colleges are relieving Regent's universities of their "problem children", these same universities could assist the community colleges by promoting educational curricula that would ultimately produce a larger pool of employee applicants.

It is therefore suggested by the researcher that professional development be the central focus of future strategic planning efforts.

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- Southeastern Community College, 1987-1988
- Southwestern Community College, 1987-1988
- Western Iowa Technical Community College, 1987-1988

APPENDIX A: PURPOSE OF FEDERAL VOCATIONAL EDUCATION AID

Carl Perkins Vocational Education Act

1. To expand, improve, modernize, and develop quality vocational education programs in order to meet the needs of the nation's existing and future work force for marketable skills and to improve productivity and promote economic growth;

2. Assure that individuals who are inadequately served under vocational education programs are assured access to quality vocational education programs, especially individuals who are disadvantaged, who are handicapped, men and women who are entering nontraditional occupations, adults who are in need of training and retraining, individuals who are single parents or homemakers, individuals with limited English proficiency, and individuals who are incarcerated in correctional institutions;

3. Promote greater cooperation between public agencies and the private sector in preparing individuals for employment, in promoting the quality of vocational education in the States, and in making the vocational system more responsive to the labor market in the States;

4. Improve the academic foundations of vocational students and to aid in the application of newer technologies (including the use of computers) in terms of employment of occupational goals;

5. Provide vocational education services to train, retrain, and upgrade employment and unemployed workers in new skills for which there is a demand in that State or employment market;

6. Assist the most economically depressed areas of a State raise employmenet and occupational competencies of its citizens;

7. To utilize a full range of supportive services, special programs, and guidance counseling and placement to achieve the basic purpose of this Act;

8. Improve the effectiveness of consumer and homemaking education and to reduce the limiting effects of sex-role stereotyping on occupations, job skills, level of competency, and careers.

(Congressional Information System, p. 499)

Education For All Handicapped Children Act (PL 94-142)

It is the purpose of this chapter to assure that all handicapped children have available to them, within the time periods specified in Section 1412(2)(b) of this title, a free appropriate public education which emphasizes special education and related services designed to meet their unique needs, to assure that the rights of the handicapped children and their parents or guardians are protected, to assist States and localities to provide for the education of all handicapped children, and to assess and assure the effectiveness of efforts to educate handicapped children.

(Federal Register, 1977a)

Rehabilitation Act (PL 93-112)

1. Develop and implement comprehensive and continuing State plans for meeting the current and future needs for providing vocational rehabilitation services to handicapped individuals and to provide such services for the benefit of such individuals, serving first those with

the most severe handicaps, so that they may prepare for and engage in gainful employment;

2. Evaluate the rehabilitation potential of handicapped individuals;

3. Conduct a study to develop methods of providing rehabilitation services to meet the current and future needs of handicapped individuals for whom a vocational goal is not possible or feasible so that they may improve their ability to live with greater independence ans self-sufficiency;

4. Assist in the construction and improvement of rehabilitation facilities;

5. Develop new and innovative methods of applying the most advanced medical technology, scientific achievement, and psychological and social knowledge to solve rehabilitation problems and develop new and innovative methods of providing rehabilitation services to handicapped individuals through research, special projects, and demonstration;

6. Initiate and expand services to groups of handicapped individuals (including those who are homebound or institutionalized) who have beeen underserved in the past;

7. Conduct various studies and experiments to focus on long neglected problem areas;

8. Promote and expand employment opportunities in the public and private sectors for handicapped individuals and place such individuals in employment;

9. Establish client assistance pilot projects;

10. Provide assistance for the purpose of increasing the number of rehabilitation personnel and increasing their skills through training; and

11. Evaluate existing approaches to architectural and transportation barriers confronting handicapped individuals, develop new such approaches, enforce statutory and regulatory standards and requirements regarding barrier-free construction of public facilities and study and develop solutions to existing architectural and transportation barriers impeding handicapped individuals.
(Federal Register, 1977b)

Job Training and Partnership Act

It is the purpose of this Act to establish programs to prepare youth and unskilled adults for entry into the labor force, and to afford job training to those economically disadvantaged individuals and other individuals facing serious barriers to employment--who are in special need of such training to obtain productive employment.
(Department of Education, 19860-1988)

Adult Education Act

1. Enabling all adults to acquire the basic literacy skills necessary to function in society.

2. Enabling adults whose desire, to continue their education to at least the level of completion of secondary school.

3. Making available to adults the means to secure training that will enable them to become more employable, productive, and responsibile citizens.

First In The Nation In Education (FINE) Report

The Urban committee report recommends that community colleges should be the educational institution that meets the remedial needs of students. It recommends the following:

> While the Subcommittee strongly believes that any institution of higher education which admits a student with a serious deficiency in the basic academic competencies is obligated to provide appropriate remedial programs and that higher education should be available to "late bloomers," i.e. students who did not perform up to their capabilities in elementary and secondary school, and returning adults whose academic skills need refreshing, those students in need of remediation may be better and more efficiently served at the community college level then at the Regents' institutions.
>
> Indeed, because of their open-admission policy, the merged area schools already enroll large numbers of students with academic deficiencies whose needs they must meet without sacrificing academic standards. The Subcommittee recommends that, to maintain educational quality, these institutions establish realistic admissions requirements to specific vocational and college-transfer programs and the communicate them clearly to students and staff in secondary schools. Such statements of expectations would do much to dispel the common misapprehension that students in college vocational programs do not need strong academic skills.
>
> The Subcommittee further recommends that to maintain the open-door to ensure true equality of opportunity for those who do not yet need program requirements--the merged area schools offer comprehensive developmental studies programs which include academic assessment, mandatory enrollment in appropriate remedial coursework, an advising system that integrates the developmental students into the educational system, and reinforcement of basic skills in all classes. These developmental programs will require strong commitment from area school administrators and faculty members, cooperation in articulating standards from the

basic skills in all classes. These developmental programs will require strong commitment from area school administrators and faculty members, cooperation in articulating standards from the Regents' institutions, and adequate funding from the Legislature. But they are essential if the people of Iowa want to promote both equality of opportunity and educational excellence.

The Final Report and Proposed Plan Of The Task Force On Remedial Programs (1986)

This task force agreed with the Urban Committee report and extended it for the State of Iowa. Its recommendations are as follows:

> Recommendation 1. The Task Force on Remedial Programs agrees that the primary responsibility for remedial and developmental education remains with the area colleges. These colleges should develop and maintain appropriate programs to fill this need.
>
> Recommendation 2. Regents' universities should continue to offer some remedial course work. Such work is important to meet the needs of students caught in rapidly changing environment of improving education standards, to assist in providing educational opportunity to nontraditional students, and to support the further educational development of "late bloomers". The present level of remedial education offered by the Regents' universities is appropriate.
>
> Recommendation 3. The Task Force recognizes the need for better diagnosis of educational and developmental problems at the K-12 level and the area colleges and universities. The Task Force feels that diagnostic problems are at least as important as special programming opportunities, particularly at the K-12 level. Counselors at the high schools and area colleges should become involved in the diagnosis of educational problems of students.

Recommendation 4. There should be continued review of articulation agreements between the area colleges and the Regents' universities as the universities increase their admission and graduation requirements. In particular, articulation of credits earned toward the Associate of Arts degree must be continually reviewed.

Recommendation 5. Regents' universities should adopt and circulate statements on minimum expectations for admission and graduation from the university. These statements should include information on requirements of the various degree programs.

Recommendation 6. All area colleges should adopt a mandatory assessment program to assist in the appropriate placement of students and to maximize those students' educational attainment.

review their present programs for information on students transferring into their institutions. There is reason to believe that the use of such information can be improved and that this can lead to better placement of students at an appropriate level of instruction.

Summary and Conclusion

The Task Force believes that the present level of remedial education in Iowa is not inappropriate. The FINE committee is accurate, the Task Force believes, in its finding that the primary locus of such instruction should be at the area colleges. However, some limited remedial course work should continue to be offered at the Regents' universities.

As pressures to enhance educational standards continue, the need for remediation at all levels of instruction is expected to increase, not decrease. While modest increases in remedial course offerings may be appropriate at the Regents' universities, these increases should be limited, and the primary emphasis on such education should continue to be at the area college level.

APPENDIX B: CHARACTERISTICS OF STUDENTS WITH LEARNING DISABILITIES

Checklist of Characteristics of Learning Disabled Students

Instructions: Based upon your review of previous records and current data, check each characteristic that applies to the student. Check only those that are clearly evident.

Language and Reading:

___ Has lots of ideas but cannot express them in writing
___ Difficulty with multiple word meanings
___ Lack of flexibility in word meanings
___ Not aware of possible alternative meanings
___ Unable to comprehend directions
___ Unable to understand jokes, puns, and slang
___ Little sense of basic root word meanings
___ No strategy or system for remembering
___ Sequence problems
___ Problems with complex sentence structures
___ Word retrieval problems
___ Pronunciation difficulties
___ Unaware of mispronunciations (Auditory problems)
___ Unaware of listener's needs
___ Problems maintaining an idea to completion
___ Poor organization - ideas and points out of sequence
___ Spelling difficulties
___ Problems with the rules of grammar
___ Uncertain regarding the function of words or word endings
___ Written language problems including comma omission, verb omission, dropped endings, omission of articles, demonstratives, and prepositions, and meaningless sentences.
___ Able to write but unable to express verbally
___ Able to express verbally but not able to write
___ Reading rate extremely slow
___ Literal comprehension problems
___ Creative comprehension problems
___ Has problems listening
___ Has difficulty distinguishing important from unimportant information
___ Has problems reasoning in a deductive manner
___ Problems perceiving cause-and-effect relationships
___ Difficulty remembering things heard and seen (Long and short term)
___ Difficulty with handwriting

Math

___ Unable to comprehend directions
___ Difficulty with basic math facts
___ Poor organization
___ No system for remembering
___ Unable to remember rules
___ Unable to understand word problems
___ Sequence difficulties
___ Inability to understand fractions
___ Unable to finish tests or work sheets
___ Does not understand math symbols
___ Does not use logic
___ Does well on daily work but fails tests
___ Many careless errors
___ Able to do math verbally but unable to do written problems
___ Difficulty with problems that have more than one process. Example-division
___ Difficulty copying problems from board
___ Lack of understanding of part—whole relationships
___ Inability to decide which process to use in problem solving
___ Arithmetic problems caused by reading handicaps
___ Figure-ground confusion
___ Impulsive, careless, non-analytic preformance

Organizational

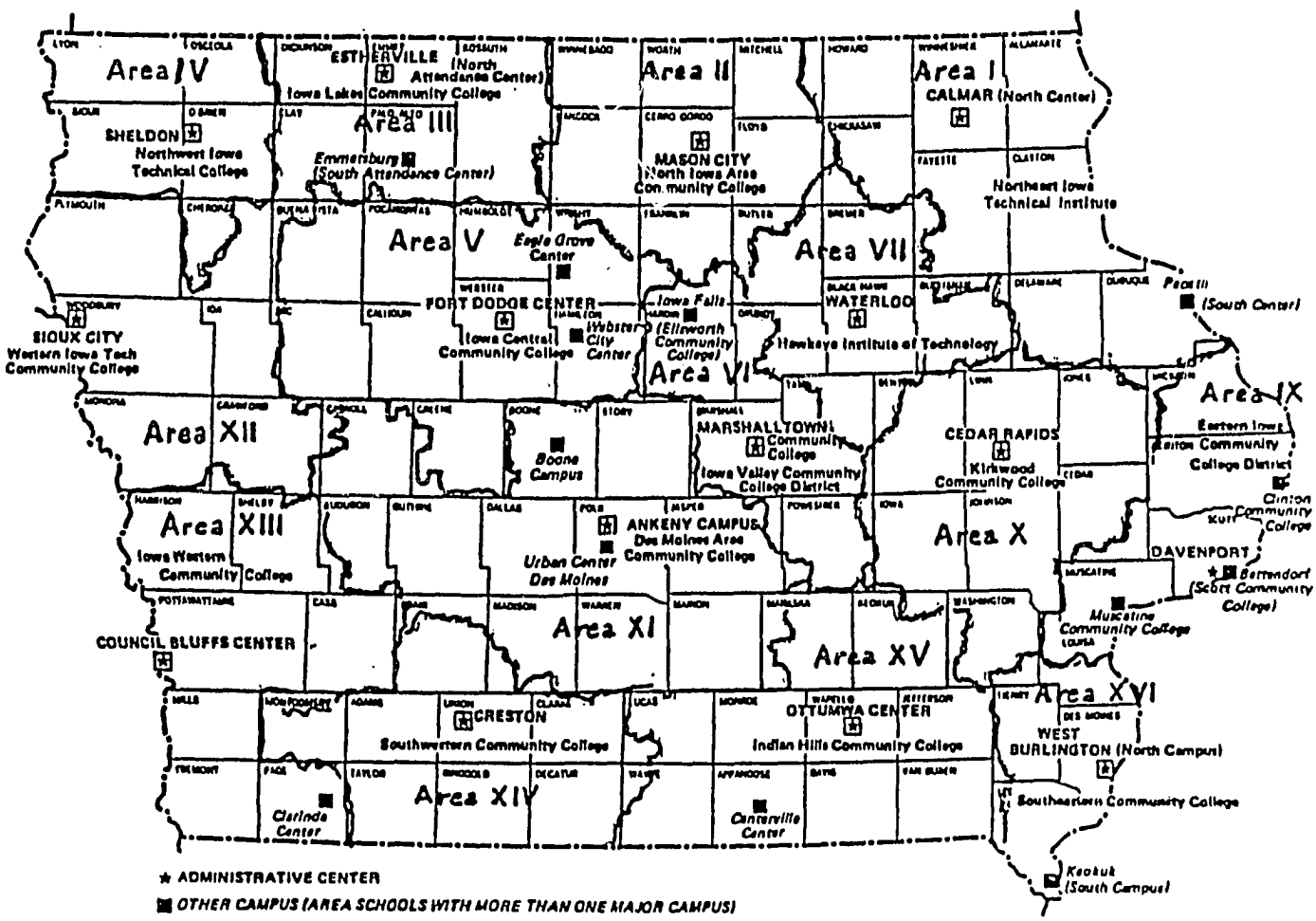
___ Unable to remember assignments
___ Forgets appointments often
___ Does not know the months in order
___ Sequence difficulties
___ Problems with time concepts
___ Unable to break tasks into small steps
___ Does not know what to do first, priorities
___ Does not have study strategies
___ Does not know how to use reference books
___ Course materials are disorganized and mixed together
___ Can not read charts, maps, tables, etc.
___ Problems understanding oral, written, and verbal direction or orders
___ Problems establishing short and long-term goals
___ Difficulty taking complete and accurate notes

Social

___ Insecurity in conversational situations
___ Avoidance of situations
___ Inability to understand and/or follow conversation
___ Problems recalling words
___ Pronunciation problems
___ Difficulty understanding nonverbal communication
___ Late for meetings or forgets meetings
___ Behavior problems that interfere with relationships
___ Extremely anxious
___ Overly sensitive
___ Does not understand humor and sarcasm
___ Problems maintaining appropriate personal appearance
___ Low self-concept
___ General immaturity
___ Unable to meet responsibilities

LOCATION OF AREA SCHOOL SPECIAL NEEDS COORDINATORS

Merged Area Schools



Ages 18-21

Part B., E.H.A.
P.L. 94-142 Child Count
December 1, 1985

D I S A B I L I T Y

AEA	SL	CM	PD	VI	HI	DF	LD	MD	SP	BD	DD	TOTAL	% OF TOTAL
1	1	0	4	3	2	0	94	106	7	11	0	228	8.68
2	0	0	1	0	0	0	47	46	10	9	0	113	4.30
3	0	0	2	0	0	0	17	31	4	4	0	58	2.21
4	4	0	0	1	1	0	28	33	3	3	0	73	2.78
5	1	1	0	5	4	0	78	67	8	29	0	193	7.35
6	2	1	1	1	2	0	33	63	7	7	0	117	4.45
7	0	0	3	1	4	0	62	64	8	57	0	199	7.57
9	0	0	2	0	6	0	82	103	9	12	0	214	8.15
10	6	0	6	0	3	0	82	94	15	41	0	247	9.40
11	1	0	10	6	2	0	200	260	24	54	0	557	21.20
12	1	0	1	0	5	0	70	60	2	13	0	152	5.79
13	0	1	2	0	1	0	67	79	5	15	0	170	6.47
14	0	0	1	0	0	0	37	17	0	3	0	58	2.21
15	1	0	8	0	2	0	42	67	1	2	0	123	4.68
16	1	0	4	0	0	0	42	64	5	9	0	125	4.76
TOTAL	18	3	45	17	32	0	981	1,154	108	269	0	2,627	100%
% OF TOTAL	.69	.11	1.71	.65	1.22	0	37.34	43.93	4.11	10.24	0	100%	

J.Lee.8

Ages 22+

Part B., E.H.A.
P.L. 94-142 Child Count
December 1, 1985

D I S A B I L I T Y

AEA	SL	CM	PD	VI	HI	DF	LD	MD	SP	BD	DD	TOTAL	% OF TOTAL
1	0	0	1	0	0	0	0	0	0	0	0	1	12.50
2	0	0	0	0	0	0	0	0	0	0	0	0	-
3	0	0	0	0	0	0	0	0	0	1	0	1	12.50
4	0	0	0	0	0	0	0	1	0	0	0	1	12.50
5	0	0	0	0	0	0	0	0	0	1	0	1	12.50
6	0	0	0	0	0	0	0	0	0	0	0	0	-
7	0	0	0	0	0	0	0	0	0	0	0	0	-
9	0	0	0	0	0	0	0	0	0	0	0	0	-
10	0	0	0	0	0	0	0	1	1	0	0	2	25.00
11	0	0	0	0	0	0	0	0	0	0	0	0	-
12	0	0	0	0	0	0	0	0	0	0	0	0	-
13	0	0	0	0	0	0	0	0	0	0	0	0	-
14	0	0	0	0	0	0	0	0	0	0	0	0	-
15	1	0	1	0	0	0	0	0	0	0	0	2	-
16	0	0	0	0	0	0	0	0	0	0	0	0	25.00
TOTAL	1	0	2	0	0	0	0	2	1	2	0	8	100%
% OF TOTAL	12.50	0	25.00	0	0	0		25.00	12.50	25.00	0	100%	-

J.Lee.8

Ages 18-21

Part B., E.H.A.
P.L. 94-142 Child Count
December 1, 1987

D I S A B I L I T Y

AEA	SL	CM	PD	VI	HI	LD	MD	SP	BD	DD	TOTAL	% OF TOTAL
1	2	0	4	4	2	92	100	16	12	0	232	8.0
2	1	0	0	0	0	63	47	8	9	0	128	4.4
3	1	0	4	0	1	31	42	3	1	0	83	2.9
4	4	0	0	0	0	26	32	2	4	0	68	2.3
5	0	1	1	1	1	94	66	9	12	0	185	6.4
6	0	0	0	0	1	37	38	10	13	0	99	3.4
7	0	0	5	0	3	86	87	9	56	0	246	8.5
9	0	0	2	1	6	103	117	6	25	0	260	9.0
10	1	2	4	0	1	67	129	17	24	0	245	8.5
11	4	0	13	1	4	235	270	25	57	0	609	21.1
12	0	0	4	1	6	75	61	4	18	0	169	5.8
13	2	0	3	1	0	78	76	5	23	0	188	6.5
14	0	0	1	0	0	40	36	1	5	0	83	2.9
15	1	0	33	0	0	51	66	3	10	0	164	5.7
16	0	0	2	0	1	60	55	4	11	0	133	4.6
TOTAL	16	3	76	9	26	1,138	1,222	122	280	0	2,892	100%
% OF TOTAL	.6	.1	2.6	.3	.9	39.3	42.3	4.2	9.7	0	100%	

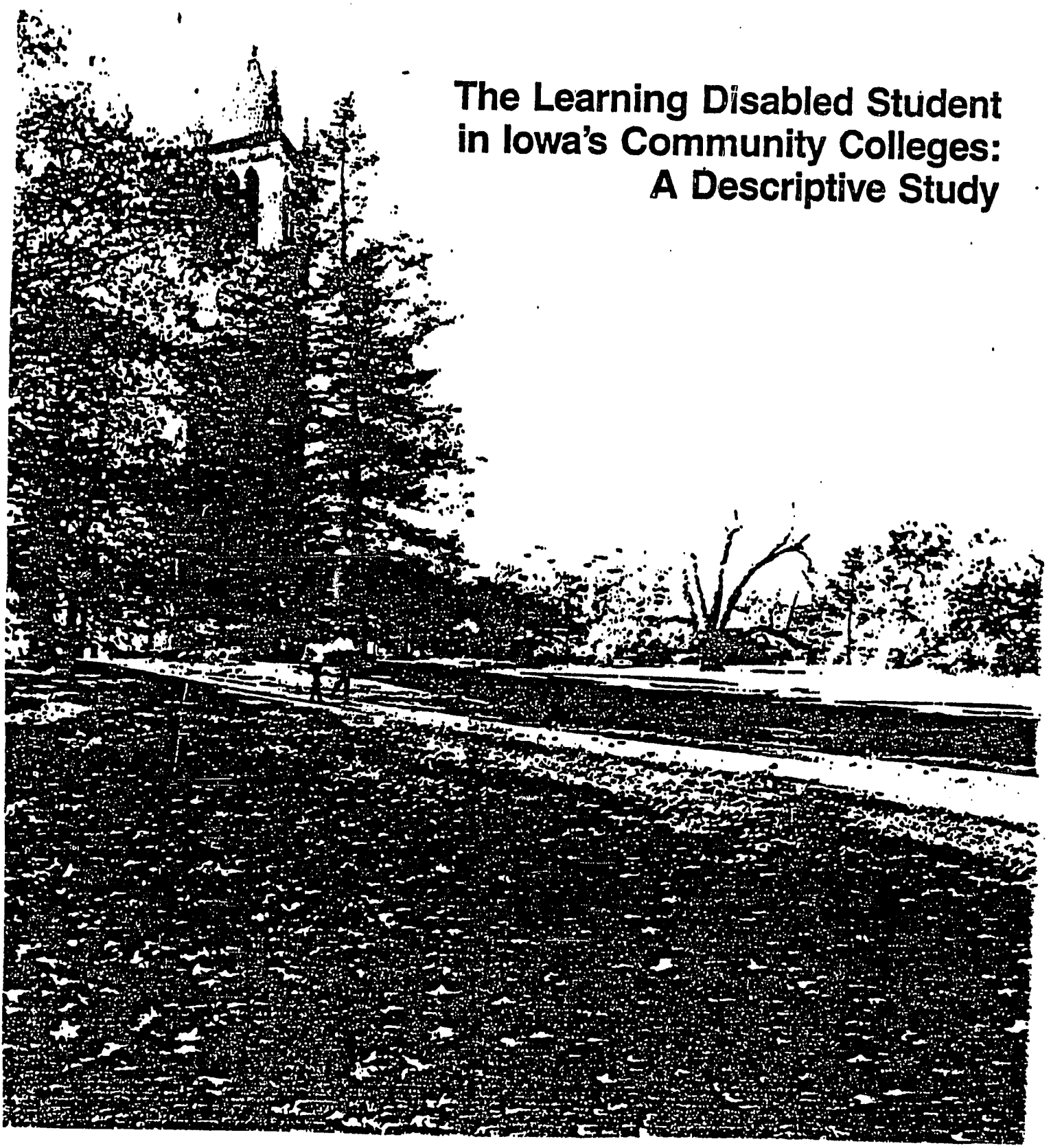
Ages 22+

Part B., E.H.A.
P.L. 94-142 Child Count
December 1, 1987

D I S A B I L I T Y

AEA	SL	CM	PD	VI	HI	LD	MD	SP	BD	DD	TOTAL	% OF TOTAL
1	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	0	0	
3	0	0	0	0	0	1	0	0	0	0	1	7.7
4	1	0	0	0	0	0	0	0	0	0	1	7.7
5	0	1	0	0	0	0	0	0	0	0	1	7.7
6	0	0	0	0	0	0	0	0	0	0	0	
7	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	0	1	0	0	1	0	2	15.4
10	0	0	0	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	1	0	1	0	2	15.4
12	0	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	
15	0	0	1	0	1	2	0	1	0	0	5	38.4
16	0	0	0	0	0	0	0	1	0	0	1	7.7
TOTAL	1	1	1	0	1	4	1	2	2	0	13	100%
% OF TOTAL	7.7	7.7	7.7	0	7.7	30.7	7.7	15.4	15.4	0	100%	

APPENDIX C: QUESTIONNAIRE



The Learning Disabled Student in Iowa's Community Colleges: A Descriptive Study

Dear Special Needs Educator;

Educating the learning disabled college student presents a challenge to most postsecondary institutions. Community colleges have accepted this challenge and have established basic skills, remedial, and/or developmental programs to meet the special needs of this population. Your college has no doubt addressed such student related issues as recruitment and admissions, student services, financial aid, curriculum, staffing, and evaluation. However, with increasing enrollment of learning disabled students into your college, funding for these essential programs may become a critical issue.

The questionnaire attempts to ascertain whether federal funds channeled through the Carl Perkins Vocational Education Act is sufficient to meet your programming needs. However, I need your help to identify what those needs are.

Please complete this questionnaire and return to me by July 30. Should you agree to participate, you can be assured of complete confidentiality. An identification number to be assigned to the questionnaire will be used for the purpose of data analysis only. After compiling the results, a summary of the findings will be shared with you and the Iowa Department of Education describing the collective funding needs described by you and your peers.

For further information, please contact me at (515) 296-7610. Thank you for your assistance in this research study.

Sincerely,

Marguerite J. Hunt

Committee Members:

Dr. Larry Ebbers
Dr. Daniel Robinson
Dr. Donald McKay
Dr. William Wolansky
Dr. Wiliam Miller

Department of Education Advisors:

Dr. Raymond Morley
Dr. William Walters
Dr. Donald Wederquist

A. GENERAL INFORMATION
Information included in this section pertains to all students enrolled in your institution's vocational education programs.

1. Institutional name: _____

2. Please CHECK the category(ies) which best describes your of institution:

_____Public	_____Community College	_____Voc/Tech College
_____Private	_____Junior College	

3. Please answer the following questions regarding school enrollment in your institution.

	'85 -'86	'86 -'87	'87 -'88
A. Total school enrollment			
B. Total vocational education enrollment			

4. Please answer the following questions about the types of students enrolled in your institution.

A. Using the total vocational education enrollment indicated above, please indicate the number of students that would be classified in each of the following categories?

_____Disadvantaged _____Handicapped _____ Other

B. For the handicapped population indicated in Part 4A, please indicate the percentage of students that fall in each of the following categories.

_____Visually Impaired/Blind	_____Hearing Impaired/Deaf
_____Learning Disabled	_____Mentally Retarded
_____Orthopedically Impaired	_____Other Health Impaired
_____Speech Impaired	_____Emotionally Disturbed

_____Other (Specify: _____

5. Who makes the final determination of the existence of a handicapping condition and its effect on the learning process? (Name the position and department only.)

_____

6. A. Please CHECK the position of the individuals involved in admitting students into the college and into a department/program.

	INTO COLLEGE	VOC. PROGRAM
Program Heads		
Academic Deans		
Academic counselors		
Career/vocational counselors		
Remedial instructional staff		
Regular instructional staff		
Health professionals		
Student advisors		
Vocational Rehabilitation		
Veterans Administration		
Local Area Education staff		
Athletic Staff		
Placement Officer		
Other (Specify:_____		
Other (Specify:_____		

B. Do the admission personnel mentioned above work:

	INTO COLLEGE	VOC. PROGRAM
_____Individually		
_____As a total team		
_____Team membership determined as required		
_____Seldom/never meet		

7. What are the title(s) of your special program(s) for underprepared, unprepared, and/or handicapped students?

A._____ D._____

B._____ E._____

C._____ F._____

8. A comprehensive program, includes many elements. Please indicate the statements that BEST describe the special services offered at your college THIS FISCAL YEAR.

CHECK ALL THAT APPLY

_____Special Administrative Unit
_____Counseling Services
_____Peer Tutoring
_____Vocational Rehabilitation
_____Other (Specify:_____
_____Pretesting/Evaluation/Curriculum Placement
_____Curriculum (courses)
_____Veterans Administration
_____Recruitment

9. Do you have a specific department to house the special services listed in question 8? If so, please write the title of the department and the name of the chief executive officer for that department. If there is more than one department, please respond for each.

A._____

B._____

C._____

10. Which of the following methods does your college utilize to recruit students?

CHECK ALL THAT APPLY.

_____Word of mouth	_____High school counselors
_____High school visitations	_____Public mailings
_____Newspapers	_____Community contacts
_____Radio advertisements	_____Student letters
_____Television advertisements	_____Other: (Specify)
_____Other:_____	_____

11. Does your college provide the student with written objectives for student development in vocational educations programs?

_____yes - -> How is it distributed? and to whom? _____

_____no _____

12. Please indicate the areas in your college which have been evaluated within THIS FISCAL YEAR. CHECK ALL THAT APPLY.

_____Recruitment	_____Diagnostic/ placement plan
_____Support services	_____Curriculum (courses)
_____Instructional staff	_____Departmental program

13. Each of the following questions pertain to Carl Perkins Vocational Education funding. Please answer each question.

	YES	NO	DON'T KNOW
A. Are you currently using Carl Perkins Vocational Education funding to educate handicapped students?	_____	_____	_____
B. Are Federal dollars enough to serve existing special needs populations?	_____	_____	_____
C. Should Federal dollars be targeted to general handicapped populations?	_____	_____	_____
D. Do Federal dollars need to be targeted to learning disabled populations?	_____	_____	_____
E. Can you appropriately match the Federal dollars available?	_____	_____	_____

14. Please indicate the percentage of the vocational education budget that is devoted to separate programs for learning disabled students?

CHECK ONE

_____less than 10% _____10% _____20% _____30%

_____40% _____50% _____60% _____70%

_____more than 70% _____information is not available

B. LEARNING DISABLED STUDENTS

The questions included in this section pertain only to learning disabled students enrolled in your institution's vocational education programs.

15. Which of the following methods does your college utilize to recruit learning disabled students? CHECK ALL THAT APPLY.

_____Word of mouth
_____High school visitations
_____Newspapers
_____Radio advertisements
_____Television advertisements
_____Student letters
_____High school counselors
_____Public mailings
_____Community contacts
_____Other (Specify:
_____
_____

16. Within your department, who makes the final decision that an individual is learning disabled? (Enter position and department only.)

_____

17. How is eligibility for remedial/developmental courses determined for learning disabled students in your department?

CHECK ALL THAT APPLY.

_____Standardized tests administered in _____High school
_____College

_____High school course grades: Cutoff: _____C+ _____C _____C-
_____D+ _____D _____D-

_____Previous educational records
_____Instructor recommendations
_____Student recommendation
_____College counselor recommendation
_____Medical History
_____Other (Specify:_____

18. A. Please indicate the standardized tests and subtests used by your institution to determine a learning disability?

	TESTS	SUBTESTS	CUT-OFF CRITERIA
1.	_____	a. _____	_____
	_____	b. _____	_____
	_____	c. _____	_____
2.	_____	a. _____	_____
	_____	b. _____	_____
	_____	c. _____	_____
3.	_____	a. _____	_____
	_____	b. _____	_____
	_____	c. _____	_____
4.	_____	a. _____	_____
	_____	b. _____	_____
	_____	c. _____	_____

B. Who pays for the assessment? _____college _____student

19. A. Where are diagnostic services provided? CHECK ALL THAT APPLY.

_____On the main campus
_____On a satellite campus
_____Outside agencies on campus
_____Outside agencies off campus

B. Who pays for assessments done by outside agencies?

_____college _____students _____agency

20. Please indicate the statement that BEST describes the method used to award financial aid to students.

CHECK ONE

_____Financial aid is awarded according to "need".

_____"Needy students are awarded financial aid regardless of academic standing.

_____The college has a special fund for academically handicapped students.

21. Please indicate the NUMBER of support personnel housed on your campus that are available to serve learning disabled students.

	FULL TIME	PART TIME
A. Licensed psychologists (school, clinical, counselor)		
B. Certified guidance counselors		
C. Administrators		
D. Instructors		
E. Peer (student) personnel		
F. Contracted outside personnel		

22. Which of the full time personnel indicated above are hired to serve the learning disabled only? (State position and department.)

	POSITION	DEPARTMENT
A.		
B.		
C.		

23. Which of the styles indicated below are most characteristic of remedial/developmental courses for learning disabled students? CHECK ALL THAT APPLY to A and B below for THIS FISCAL YEAR.

A. Type of credit

_____credit toward a degree
_____institutional credit (does not apply toward degree)
_____non-credit
_____transfers to other courses
_____independent study (course)
_____independent work (Mastery Learning)

B. Style of delivery

_____a year-long program
_____full quarter/semester
_____walk-in/walk-out
_____utilize full time faculty
_____utilize peer staff

24. What methods are you currently using to evaluate learning disabled students' achievement in remedial/developmental vocational education programs? CHECK ALL THAT APPLY

_____providing a variety of assessment methods other than paper and pencil tests
_____providing students with course objectives at the beginning of the semester.
_____test items which are developed from stated objectives
_____pretesting based on prerequisite skills and the instruction necessary to remedy deficiencies
_____allowing students more than one term to master a topic

25. For each topic below, rate the degree of assistance needed by learning disabled students. Use the following scale for your ratings and record a number which indicates the degree of assistance needed.

1 2 3 4 5 6 7 8 9
NOT_____MOST
NEEDED NEEDED

A. Reading and Communication Skills

_____vocabulary
_____handwriting
_____comprehension, literal
_____verbal expression
_____sequencing
_____speaking more frequently
_____selecting appropriate words
_____being more assertive
_____expressing opinions
_____learning to listen
_____nonverbal communication
_____other:_____

_____prefixes/suffixes
_____grammar rules
_____comprehension, creative
_____written expression
_____enunciation
_____speaking less often
_____word retrieval
_____asking questions
_____communicating affection*
_____following directions
_____memory
_____other:_____

B. Mathematical Skills

_____following directions
_____basic facts
_____fractions
_____word problems
_____careless errors
_____part/whole relationships
_____beginner algebra
_____geometry
_____trigonometry
_____balancing a checkbook

_____memory
_____percentages
_____decimals
_____sequencing
_____understanding math symbols
_____copying from the board
_____advanced algebra
_____physics
_____making change (money)
_____other:_____

1 2 3 4 5 6 7 8 9
NOT _____ MOST
NEEDED NEEDED

C. Career/Vocational Skills

_____where to go for a job
_____interviewing for a job
_____finishing work on time
_____avoiding excessive talk
_____knowing how to be told each step in daily job
_____respecting others
_____eye-hand coordination
_____other:_____

_____taking criticism
_____following directions
_____being on time
_____reading want ads
_____filling out job applications
_____asking questions
_____daily living skills
_____other:_____

D. Social/Interpersonal Skills

_____conversational situations
_____being on time
_____nonverbal communication
_____personal appearance
_____self-concept
_____meeting responsibilities
_____other:_____

_____managing emotions
_____sensitive of others
_____respecting others
_____understanding humor
_____self-confidence
_____self-esteem
_____other:_____

27. What courses do you offer to meet the above needs?

A._____ E._____

B._____ F._____

C._____ G._____

D._____ H._____

28. Please CHECK ALL THAT APPLY for each of the following questions.

A. What teaching style is most often used in your remedial/ developmental courses.

_____lecture
_____individualized (I.E. one-on-one teaching)
_____group discussion
_____student centered (I.E. Mastery Learning)

B. Does your department assess for learning style preferences?

_____ Yes -----> How? _____Standardized tests
_____ No _____Informal tests

29. Using the following scale, please indicate the NUMBER that BEST describes the degree that learning disabled students participate in the following activities:

1 2 3 4 5 6 7 8 9
LOW PARTICIPATION ——— HIGH PARTICIPATION

_____Clubs and organizations (I.E. career, OWLS)

_____Special support groups (I.E. personal development)

_____Special interest groups (I.E. religion, politics)

_____Athletics (I.E. intramural sports)

_____Fine/performing arts (I.E. art, choir, band)

_____Student Government (I.E. student senate)

30. A. In which <u>activities</u> do you encourage learning disabled students to participate?

1._____ 5._____

2._____ 6._____

3._____ 7._____

4._____ 8._____

B. In which <u>courses</u> do you encourage learning disabled students to enroll?

1._____ 4._____

2._____ 5._____

3._____ 6._____

31. Please indicate the percentage of faculty, counselors, and staff in your department having the following characteristics

	FULL-TIME FACULTY	FULL-TIME COUNSELORS	PART-TIME STAFF
A. have chosen this assignment			
B. are specially trained to teach learning disabled students			
C. are specially trained to educate other handicap(s)			
D. attend campus professional development activities			
E. attend remedial instruction workshops/conferences off campus with expenses paid			
F. attend on-campus in-service remedial instruction training			
G. are evaluated by students			
H. consult in curriculum development			
I. consult in human development			
J. are instructors in human development courses			
TOTAL NUMBER OF FULL TIME EMPLOYEES			

32. How are courses/programs for learning disabled students evaluated?

CHECK ALL THAT APPLY.

_____Measure the change in test scores.
_____Measure the change in student attitude.
_____Follow-up of students on the job or in college.
_____Formal collection of faculty/student reactions to programs.
_____Other (Specify:_____

33. An annual follow-up is done for each of the following:

CHECK ALL THAT APPLY.

_____ vocational/career counseling
_____ personal/emotional counseling
_____academic progress counseling
_____ graduates
_____ stop-outs
_____ drop-outs

34. Please estimate the percentage of learning disabled students that complete the programs in each of the following categories.

_____ degree programs _____ diplomas _____certificates

35. At what point in your program are exit interviews conducted?

CHECK ALL THAT APPLY.

_____Students completing programs _____Withdrawing students

_____Other (Specify:_____ _____

36. Using the following scale, how do learning disabled students compare wit other students? Indicate the NUMBER below.

1 2 3 4 5 6 7 8 9
NOT SATISFACTORY _____ HIGHLY SATISFACTORY

	Vocational Courses	Social Skills	Developmental Courses
A. other handicapped students	_____	_____	_____
B. "regular" students	_____	_____	_____

37. Please rate the effectiveness of developmental programs which serve learning disabled students in each of the following areas.

(CHECK ONE FOR EACH STATEMENT)

	EFFECTIVE				
	VERY	SOMEWHAT	AVERAGE	LOW	NOT
A. Recruitment	_____	_____	_____	_____	____
B. Admissions	_____	_____	_____	_____	____
C. Curriculum	_____	_____	_____	_____	____
D. Instructors	_____	_____	_____	_____	____
E. Counselors	_____	_____	_____	_____	____
F. Administrators	_____	_____	_____	_____	____
G. Classroom materials	_____	_____	_____	_____	____

38. What specific problems do you think students classified as learning disabled possess that have not been addressed?

1._____

2._____

3._____

4._____

39. Which of the following types of students have access to the services provided for learning disabled students? CHECK ALL THAT APPLY.

_____International

_____Returning adults

_____Transfer (A.A/A.S.degree)

_____Disadvantaged

_____Continuing education

_____Other handicaps (I.E. Physically Handicapped

_____Other: (Specify: _____

_____

C. PERSONAL INFORMATION

In this section, I would like for you to answer questions regarding your personal philosophy and personal history.

40. What do you feel is the major obstacle to learning for learning disabled students? Using the following scale, write the NUMBER that BEST describes the relative importance of each of the following items.

1 2 3 4 5 6 7 8 9

LOW IMPORTANCE _____ HIGH IMPORTANCE

_____Low intelligence
_____Home/ family problems
_____Poor elementary/secondary schooling
_____Parental educational levels
_____Low socioeconomic status
_____Lack of effort
_____Fear of failure
_____Fear of success
_____More interested in non-academic matters i.e. sports, car
_____The necessity of a job prevents adequate time and energy to study
_____Self-motivation
_____Other (Specify:_____

41. Using the following scale, write the NUMBER that best determines the importance of each of the following goals for educating learning disabled vocational education students?

1 2 3 4 5 6 7 8 9
LOW IMPORTANCE _____ HIGH IMPORTANCE

_____To provide academic skills for regular college work
_____To provide vocational skills for job preparation
_____To provide social skills for job and family responsibilities (I.E. budgeting, balancing a checkbook)
_____To provide interpersonal skills for peer interaction
_____To assist in the development of non-academic talents
_____To change attitudes toward self
_____To change attitudes toward school
_____Other: (Specify:_____

42. For each statement below, please fill in the corresponding blank.

A. Highest Degree Earned _____

B. Major Area of Study (per degree)

1._____

2._____

3._____

4._____

C. Number of years of professional experience (in education) _____

D. Length of time teaching learning disabled students Check One

_____1-2 years _____3-9 years _____10-20 years

_____21-48 years _____None: Administration only

43. COMMENTS

Postage for the questionnaire is prepaid. Please tape it together and mail. Thank you for your assistance in this research project.

STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF EDUCATION
WILLIAM L. LEPLEY, Ed.D., DIRECTOR

M E M O

DATE: July 7, 1988

TO: Special Needs Coordinators, Learning Center and Adult Education Personnel and Career Counselors

FROM: Dr. Raymond Morley
Bureau of Compensatory and Equity Education

Don Wederquist
Bureau of Area Schools

SUBJECT: Enclosed Study

Special Needs and Adult Education staff within the Department of Education reviewed the enclosed study and deemed it to be of value in determining future procedures for program planning. Please try to complete the survey with the best information you have available.

Your cooperation will be greatly appreciated.

hc

Enclosure

Iowa State University of Science and Technology Ames, Iowa 50011

Office of the Dean
College of Education

Dear Special Needs Coordinator;

Several weeks ago, a questionnaire booklet was mailed to you entitled "Learning Disabled Student's in Iowa's Community Colleges: A Descriptive Study".

My records do not indicate receiving your questionnaire. Please reconsider my request to participate in this study. Because it has only been sent to you, the special needs coordinator, it is extremely important that your institution also be included in this study if the results are to accurately describe the special services given to learning disabled students in Iowa's community colleges.

I would very much appreciate your assistance in this study.

Sincerely,

Marguerite J. Hunt

Major Professors:

Dr. Larry Ebbers
Professional Studies, chair
Iowa State University

Dr. Daniel Robinson
Associate Professor
Iowa State University

ACKNOWLEDGEMENTS

At this time I would like to extend my most sincere thanks to the people that have assisted me in this study.

First and foremost I wish to thank my major professors and members of my research committee: Drs. Larry Ebbers, Daniel C. Robinson, Donald McKay, William Miller and William Wolansky. Without your encouragement and assistance this research study would probably never have been completed.

I wish to also thank three individuals employed in the Iowa Department of Education that made significant contributions to the development of the survey instrument as well as the gathering of information and data - William Walters, Learning Resource Center Coordinator and Merriam Daws, Adult Education Coordinator. A special thanks is extended to Dr. Raymond Morley for his untiring assistance, endorcement of the study, the mailing of the questionnaire.

A great big hug and kiss to my little men, Jerry Jr. and Ian who never once gave me an ounce of trouble, never complained for moving them to this "land of corn", tolerated my moodiness, and provided much encouragement.

I could never repay the guidance, encouragement, and support during this time of "unending pain" given me by my closest friends Lorna Peterson and Randy Thompson.

To my father, Albert Jones, and his companion Verna Day, who were always there to provide wisdom when my confidence was low; and never allowed me to wallow in my suffering.

To my ex-husband I extend my warmest appreciation. For it is because of our marital separation and eventual divorce that I sought this degree; and through his continuous lack of support (both mental and financial) and constant evilness, prompted my desire to persist and attain this degree.

This paper is dedicated to my mother, aunt and uncle who encouraged me from the cradle to obtain all of the education that I could. Although they each have left this earth before I could complete this terminal degree, I wish to say: "Now I have all of my ABCs".

EPILOGUE

When the definition, origin and method of assessment of a handicapping condition is questionable, difficulties will manifest in all areas of the educational structure: student services, curriculum development, classroom instruction, cost/benefit analysis, evaluation, and so on. Inspite of the discrepancies of identifiying learning disabled students as stated above, community colleges have been cited by both the FINE report and the Task Force on Remedial Education as the postsecondary institution that can most efficently serve this population. While community college personnel relish in their praise, they are as concerned as four year institutions that academic standards are maintained and that the problem of the revolving door is eliminated.

With the anticipated increase of non-traditional students, community colleges face the problem of preparing for a population that few postsecondary educators feel comfortable with during a time of decreasing funds and few appropriate materials.

The results of this study have been summarized. At this time, the researcher will re-capitulate some of the necessary information to strategically plan for meeting the educational needs of learning disabled adults enrolled in their institutions.

- Can adults with severe learning disabilities benefit from postsecondary instruction?

Yes. Students identified in elementary and secondary school as having a learning disability have made remarkable progress through classroom intervention. Research has proven that a learning disability does not disappear upon graduation from high school.

Interestingly, as a student moves from one grade to the next, instructional methods change, yet learning theory remains constant. Children in the first three years of school are instructed in every subject using several sensory modalities - visual, auditory, tactile and kinesthetic. As the child passes to the next higher grade, one may find instructors gradually decreasing sensory learning use. By the time a student reaches high school, learning is reduced to auditory and sometimes visual stimulation only.

Students are most commonly referred for testing for a learning disability during or after the second grade. Techniques for classroom intervention accommodate the students' learning style. This method has proven most effective in remedial instruction.

A learning disability by definition alone should alert administrators that individuals possessing this handicapping condition are of average or above intelligence. Ineffective learning occurs as a result of one or more of the psychological processes involved in understanding or in using spoken or written language. Hense, learning can occur when adaptive teaching methods are used to accommodate individual learning styles.

For the traditional learner, the incorporation of sensory learning can only enhance the student's understanding of the information presented. Thus, maintaining if not increasing intellectual competence. The only aspect in the education of the learning disabled student that may vary from the traditional students would be the inclusion of a personal counseling component which would address areas of frustration.

- Why should an administrator consider re-structuring the current curriculum and instruction methods for the benefit of a few students?

The educational needs of adults with learning disabilities are very similar to the needs of all students. As mentioned above, accommodation of individual learning styles would not only enhance

intellectual competence for the learning disabled adult, but also the traditional student.

- Where would a college begin to develop or improve remedial/developmental education within their institutions?

It is the opinion of the present researcher that when an institution has learned to successfully educate and graduate their students of lowest ability within the least restrictive environment, then the education of all students (traditional and non-traditional) will benefit.

Historically Black Colleges (HBC) have been in the business of educating underprepared and unprepared students since their inception. And have a track record of graduating large proportions of their students. Many educators argue about the quality of students that graduate from these institutions, but the fact remains that teaching, retention, and graduation has always been the goal.

One does not have to research far to discover that many of the Black leaders of America are graduates of HBCs. Some of which sought advanced degrees at other institutions.

Why re-invent the wheel? If a college wishes to improve their educational programming for learning disabled students, investigate the curriculum, teaching methods, and student services utilized in the HBCs.

- Where should remedial and/or developmental education be housed within the college?

The provision of a separate department for remedial/developmental education is a controversial issue. It is the opinion of this researcher that separate departments have a negative emotional effect on students enrolled into the program. Oftentimes these students are austricized and outcasted by students in the general population as being the "dummies" within the institution. To ameliorate this situation, this researcher believes that remedial/developmental education should be a combined effort of both the student services departments and the academic departments. Courses should be taught as a part of the general education curriculum and offered as a required course to all students. And all students should be encouraged to test-out of the course if they so desire. (This opinion applies only to the those students that have completed their high school education.)

If a particular department must be ultimately responsibe for student success, then the department should be termed Department of General Education. Faculty and student affairs personnel would be jointly appointed to staff the department as the ultimate mission, goals and objectives of the instituion would be articulated and enforced at the beginning of the student's college career.

These courses would be perceived as core requirements to be taken for credit towards graduation in which a letter grade would be received upon completion.

Each major department would have in place admissions criteria to determine program readiness which would include the successful completion of the core required courses.

- How can the issue of escalating testing costs be resolved? The raising cost of testing, the lack of qualified personnel to administer them, and the discrimination problems associated with testing has lead the present researcher to believe that each institution should compose and norm an assessment tool germain to their institution, to be utilized as a predictive measure for academic success and

program placement. The cost of the assessment, therefore can be included on the required book list.

An alternative to this suggestion could be through grant proposal applications. The National Center for Developmental Education in Boone, North Carolina would be one possible avenue contact for this purpose.

- How do students that have completed developmental courses compare with the general population?

The results of this study indicate that developmental students usually do better in upper level courses than students that did not attend developmental courses. This however is a very controversial issue among developmental educators at this time. It is the researcher's opinion that if a gestalt approach to educating these students is utilized, developmental students would be as, if not more competitive than their non-handicapped peers due to increased self-esteem and self-confidence nourished in the developmental education programs.

- What educational materials would be most appropriate to initially meet the needs of learning disabled adults?

  Each instructor should attempt to address the learning styles of each student in the classroom. Reasonable accomodation as stated in the Rehabilitation Act requires only that previously identified handicapped students be allowed to use auxillary aids (such as tape recorders, typewriters, computers, calculators, rulers, etc.) during class time.

  Each instructor will need to modify and feel comfortable with incorporating alternative teaching methods in their classroom. As a result, faculty and administrator professional development on the "how-to's" of mediated instruction, alternative teaching and learning styles is highly recommended.

  Outside of the classroom, computer aided instruction for those students who wish to reinforce their skills in a particular area within the concept of independent, mastery learning, is also highly recommended.

- When establishing a curriculum, which courses are most essential?

Remedial/developmental courses should include basic reading, reading comprehension, basic math, spelling, writing, study skills and time management, and human potential courses that would include social skills, problem solving skills, critical thinking, daily living skills, and assertiveness training.