

FUTURE DIRECTIONS IN VOCATIONAL  
SERVICES FOR TRAINABLE MENTALLY  
RETARDED PEOPLE IN NEWFOUNDLAND  
AND LABRADOR: A DELPHI STUDY

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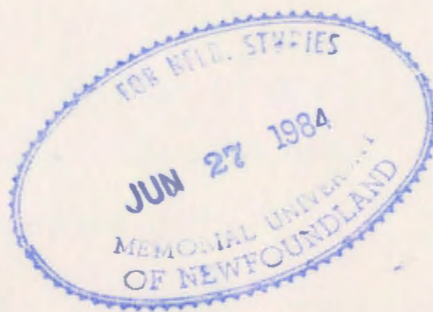
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FUTURE DIRECTIONS IN VOCATIONAL SERVICES FOR TRAINABLE  
MENTALLY RETARDED PEOPLE IN NEWFOUNDLAND  
AND LABRADOR: A DELPHI STUDY

by



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A Thesis submitted in partial fulfillment  
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## ABSTRACT

This research study derived consensus viewpoints from a heterogeneous group of service providers regarding future developments in the field of vocational services for trainable mentally retarded people in Newfoundland and Labrador.

The study used the Delphi technique, a predictive or forecasting device used by futurists, to survey and investigate future policy in this field. The technique was carried out in three rounds using anonymity of respondents, statistical group response and iteration, and controlled feedback to arrive at a numerical, descriptive prediction of futures that reflect central tendency opinion.

The results of the study revealed that convergence of opinion did take place over the three rounds of the study. Average quartile difference and variance around the mean quartile difference were used as statistical measures to determine convergence.

In general, the panel expected that a variety of very desirable events could occur in this field by 1995; however, they were less optimistic regarding the feasibility of some of these events. For example, they viewed the provision of a range of employment options and a continuum of vocational services as highly desirable, but questioned their feasibility for the entire province. They also expected that greater emphasis will be placed on vocational programming in both secondary and vocational schools; however, they further

stressed that the feasibility of this would be largely affected by the degree of cooperation between vocational and special education, as well as the attitudes of resource people, parents, employers and the general public. The panelists also considered their assuming responsibility for every individual's life career development as a desirable concept, but further emphasized that this concept must be explored more fully and that they should not accept total responsibility.



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When we take a man as he is, we  
make him worse; but when we take a  
man as if he were already what he  
should be, we promote him to what he  
can be.

Goethe

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## CHAPTER I

### INTRODUCTION

#### Purpose of the Study

There were two primary purposes to this study:

- (1) surveys and investigates the viewpoints of provincial "experts" regarding future developments in the field of vocational services for trainable mentally retarded people in Newfoundland and Labrador, together with the arguments supporting these viewpoints; and
- (2) derives consensus views from the study participants.

The study uses the Delphi Technique, a predictive measure used by futurists, to gather expert opinion regarding future developments in this field from the province-wide "community of advice" on which governmental decision-makers frequently rely.

#### Rationale and Significance

The practice of dealing with handicapped people by isolating and segregating them from the mainstream of society has long been seriously questioned (Angel, 1969; Blatt, 1970; Brolin, 1976; Brolin and Kokaska, 1979; Gearheart, 1980; Ingalls, 1978; Rosenberg and Teslowski, 1980; Rusch and Mithaug, 1980; Sitlington, 1981; Tudor-Davies, 1975; Wehman and Hill, 1981; Weisgerber, 1980). Increasingly, such people

are moving into many types of community living arrangements and are becoming contributing members of society. A crucial aspect of this movement is the provision of vocational services for one of these groups, the trainable mentally retarded people.

Acton (1981) believes that the provision of vocational services to result in employment is an essential goal for such people. He states that the importance of employment for handicapped individuals derives from four interacting economic and psycho-social pressures or needs:

- (1) most handicapped individuals need income that can be obtained from gainful employment,
- (2) productive and gainful employment satisfies fundamental human needs of a developing and enriching life,
- (3) handicapped people need to integrate into the normal flow of life in their societies, and
- (4) employment gives a regular structure and discipline to living.

Although there appears to be growing consensus regarding desirable philosophies and principles, e.g. normalization (Cleland, 1978; Menolascino, 1977; Nirje, 1969; Rosen, Clarke & Kivitz, 1976; Schulman, 1980; Wolfensberger, 1972), least restrictive environment (Freagon, Rotatori & Temple, 1981; Hill, Wehman and Kochany, 1979; Miller & Switzky, 1978; Steer, 1981), humanization (Cleland, 1978; Gearheart, 1980; Wolfensberger, 1974), dignity of risk (Menolascino, 1977; Perske, 1972; Wolfensberger, 1974) and individualization (Compton,

1981; Gearheart and Litton, 1979; Schulman, 1980) for services and programs for such people, the development of vocational services in Newfoundland and Labrador has been slow and the future trends remain unclear. The disproportionate unemployment rate and the scarcity of services for the approximately twenty-two hundred (2200) trainable mentally retarded people in this province are prominent and pressing problems which set the stage for positive action in the 1980's. Such action appears to be most appropriately based within a developmental approach, which views career development as a process that begins in early childhood, which applies to all individuals, no matter how severely handicapped, and which views each individual as having the capacity to learn, grow and develop throughout life (Brolin, 1976; Clarke, 1980; Cook and Englemen, 1978; Dawis, Lofquist and Weiss, 1968; Morgenstern and Michel-Smith, 1973; Weisgerber, 1980).

An examination of the history of the development of vocational services in this Province indicates that little has been done to facilitate the career development of trainable mentally retarded people. The findings and recommendations of the various studies and reports carried out in this field over the last fifteen to twenty years are often redundant and point to inaction towards the development of such services. Pottle (1964), as chairman of the Provincial Planning Committee for the Federal-Provincial Conference on Mental Retardation, reported that the training and vocational preparation of mentally retarded people was a most extensive problem and that



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there was need for some definition of responsibility and official policy.

Generally speaking, Newfoundland lags far behind the rest of Canada in the development of services for the mentally retarded. The departments of government which are generally concerned with this problem have not developed any special policy of legislation apart from Part II, Section 32-33 of the Child Welfare Act of 1964. Those services which exist have evolved in the absence of a specific plan, in order to meet day to day demands, and within the framework of "general" service. (p. 15)

In this regard, he recommended the development of training and employment programs for mentally retarded adults in local and regional facilities and drew attention to the following points, which were felt to be important in long range planning:

- (1) As a general rule, the home, and the local environment provides the best setting for healthy maturation. The development of local and regional facilities is, therefore, desirable as against large centralized programmes.
- (2) No single department agency or discipline can provide for the many and varied needs of the mentally retarded. A clarification of these roles is important, so that responsibility can be more effectively assigned in the development of future programs. In the past, failure to meet this problem has lead to indecision and inaction.
- (3) Whenever possible, the needs of the retarded should be provided for through "general" community services.

(p. 3)

The Child Welfare Act was revised in 1972; however, the revisions and additions were restricted to protection and custodial care issues. The Newfoundland government is presently in the process of further revising this Act to include provision of appropriate services for mentally retarded people. An analysis of the

viewpoints of provincial experts in this field can add valuable information for consideration in the revision of this Act.

The Commission on Emotional and Learning Disorders in Children, in its report entitled One Million Children - the CELDIC Report, (1969), identified two major problems in the organization and delivery of such services: (1) the lack of planning and of coordination, and (2) the fragmentation not only of services, but also of the helping professions. The Report stressed that services should be provided locally and that provincial governments have the responsibility for long-range planning, policy setting, evaluation of programs, and enforcement standards and funding, in whole or in part, of local services programs. It went on to indicate that methods must be explored at the provincial government level to coordinate the activities of such departments as Education, Health, and Manpower.

We believe that the departmental structure of governments was developed originally because of administrative convenience and professional compartmentalization, not because people divide their needs into neat sections. The size of government operations and the harsh realities of inter-departmental competition and rivalries keep them apart in spite of the fact that this inevitably leads to gaps in services and an inefficient use of public funds. Rehabilitation services may be provided by education, health, welfare and corrections departments with no coordination and frequently each having little knowledge of what the other is doing. (p. 338)

The report also urged that two realities be kept in mind in planning for services: (1) the need to make the most effective use of financial resources, and equally important, (2) to

attain maximum use of limited professional resources.

In addition to recommending the development of vocational training programs, a supplementary publication to the CELDIC report, the Report of the Ontario Committee of the Commission on Emotional and Learning Disorders in Children (1970), recommended that planning should be based on two major principles: (1) physical separation of services should be combated by developing relevant and innovative services that permit the individual with special needs to remain in the home and community, and (2) service fragmentation should be combated by a policy of integrating existing services that will create a continuum available to all people at any age, for any need, and in each community. The authors state:

The issue, as we see it, is that the policy of government and other controlling bodies must be such that the organizing patterns and the mechanisms of funding services will express and promote these principles, and enable communities to plan, develop and administer relevant services. (p. 101)

Wolfensberger (1973), in his examination of the future of service patterns for mentally retarded people, focused on the increasing realization that man can control societal processes and urged that the development of services for these individuals should be characterized by (1) service comprehensiveness (the entire range of service that he conceptualized as being appropriate), (2) extensive diffusion of speciality services into generic ones, (3) objectification of human management (including greater use of decision theory), and (4) consumer

Participation on all levels of services and policy making.

Although the above reports demonstrated the need for provision and coordination of vocational services for mentally retarded people, and provided some direction for their development, by 1971 no such services existed in this province.

Mooney (1971), in his report on mental retardation developments in Canada, acknowledged the Newfoundland Government's acceptance of responsibility for these services, through the agency of the Department of Social Services and Rehabilitation, and once again indicated a need for provincial, Health, Welfare, Education and Manpower departments and agencies to avoid duplication and make maximum use of specialized professional staffs and special training and employment facilities. He identified inadequate employment opportunities as a major barrier to the full use of vocational potentialities of mentally retarded persons.

In commenting on the delivery of vocational rehabilitation services in Canada, Roeher (1972) reported that the Canadian Government, under the Vocational Rehabilitation of Disabled Persons Act, undertook to share equally with the provinces in the cost of providing and co-ordinating "any process of restoration, training and employment placement, including services related thereto, the object of which was to enable a person to become capable of pursuing regularly a substantially gainful occupation." He further indicated that such services could be provided by the provinces or purchased by them from agencies and that no one governmental body or agency has exclusive



responsibility for vocational rehabilitation services.

Wolfensberger (1974) identified problems of rational service delivery, of service coordination, continuity, consolidation, economization, non-duplication, unified planning and harmonious implementation as the prime planning challenges in services development for developmentally handicapped persons. His study outlined a comprehensive service approach which included change mechanisms and safeguards that would enhance the probability that systems will adapt and serve their ultimate purposes and give direct attention to solving such problems as scarce, fragmented and segregated services and the lack of regional approaches.

Du Rand and Neufeldt (1975) adapted this comprehensive service approach and proposed a comprehensive vocational service system that would operate in conjunction with the larger human service spectrum (Schulman, 1980). They outlined a range of employment options so that placements could be made which would be appropriate for the degree of independence that a given individual demonstrates. These employment options were placed on a continuum from dependence to independence as follows: (1) sheltered employment, (2) sheltered industry, (3) semi-sheltered employment, (4) competitive work with support, and (5) individual competitive employment. In addition to outlining these employment options, Du Rand and Neufeldt indicated that, for a comprehensive vocational service system to function effectively, separate program components must be developed as follows: recruitment, selection, pre-vocational

training, vocational training, vocational skill training, work adjustment training, personal-adjustment training, vocational evaluation, placement, job stabilization and retraining. Their study focused on the developmental principle, in advocating that the primary objectives in the creation of vocational services are to help people who are handicapped become part of the community, rather than having them remain in sheltered environments. In the authors' words:

To sum it all up, we will need to develop comprehensive vocational service systems involving a broad range of inter-related services and activities, all combining in an effort to meet the specific vocational service needs of each and every person in the target population.

The necessity of comprehensiveness in the development of vocational services has been strongly emphasized in recent years (Brolin, 1976; Brown, 1977; Clarke, 1980; Cleland, 1978; Faulkner, 1979; Grantham, 1976; Whalan, 1977). One source of research support for such comprehensiveness, the Minnesota Studies in Vocational Rehabilitation, began in 1957 and continued until 1972, resulting in the formulation of the Minnesota Theory of Work Adjustment. The theory is based on the proposition that successful vocational adjustment depends on the congruence between an individual's work personality (abilities and needs) and his work environment (required abilities for the job and the reinforcers that the job provides) (Bitter, 1979; Lofquist and Dawis, 1975; Vandergoot and Engelkes, 1977). In focusing attention on the work environment (as well as the individual), being an important contributor

to one's vocational adjustment, the theory accentuates the importance of the availability of a comprehensive continuum of vocational services to facilitate the vocational preparation of trainable mentally retarded people.

By 1977, only two such vocational services had been developed in Newfoundland and Labrador. Vera Industries, a sheltered employment workshop for mentally retarded adults, eighteen years old and over, was opened in St. John's in 1971. It was initiated, and is operated and funded, by the St. John's Association for the Mentally Retarded and serves approximately fifty adults on a full-time basis and twenty-five students on a part-time basis. The students are enrolled with Pine Grove School, a segregated school for handicapped young people, operated by the Department of Education. The other service was the Work Oriented Rehabilitation Centre (WORC) opened in Corner Brook in 1976. It was designed to prepare developmentally delayed people, eighteen years of age and over, to accept competitive employment in the community and to become self-supporting. The Centre was initiated, operated and initially funded by the Humber Valley Association for the Mentally Retarded. (The Federal and Provincial governments eventually cost-shared eighty per cent of the operating expenses.) In response to such limited services, Dr. G. Allan Roeher, Chairman of the Exon House Assessment Committee (1977), recommended that:

the Department of Rehabilitation and Recreation establish a funding mechanism whereby financial support can be provided for the creation of sheltered and semi-sheltered

work contexts. (p. 126)

The Committee further indicated that a need for service delivery and coordination at local and regional levels was necessary to develop a broad variety of vocational and work training opportunities for the mentally retarded across the Province. The Committee's Report stated that:

Since the planning, development and implementation of community-based alternatives implies that solutions of an inter-departmental nature must be found, it is recommended that the Inter-Departmental Committee on Mental Retardation be revitalized and instructed to:

- (a) undertake a study to identify all mentally retarded persons from Newfoundland and Labrador requiring service, along with a specific strategy for the implementation of a community-based service network throughout Newfoundland and Labrador;
- (b) establish standards and mechanisms for the development and implementation of community-based services in day programs for infants, children and adults including school and vocational programs; and
- (c) identify means whereby community groups can actively collaborate in initiating, developing and implementing community service plans. (p. 38)

Government accepted and endorsed all fifty-one (51) recommendations of the Exon House Report, and enacted the Act Respecting the Rehabilitation of Disabled Persons on June 6th, 1978, stating "every disabled person is entitled to be provided with rehabilitation services if he is ordinarily resident in the province and eligible, as determined by the regulations, for rehabilitation services." In compliance with this Act, Department of Social Services, through the Rehabilitation and Community Resource Development Branch, undertook to develop a comprehensive program for the vocational rehabilitation



(including habilitation with some segments of special target population, e.g. the mentally retarded adults) of disabled persons by providing vocational services to them (Policy Paper, 1978). Despite this undertaking, significant developments in vocational services have been restricted to the expansion of Work Oriented Rehabilitation Centers (W.O.R.C.) to include programs at Lewisporte and St. John's, involving both federal and provincial funding. Several other communities or regions have submitted proposals requesting W.O.R.C. programs (e.g. Gander, Happy Valley, Marystown, Bay St. George); however, Government has declined to provide funding to operate such services, indicating that current fiscal austerity requires the operation of services or programs which achieve the greatest good for the greatest numbers (Hickey, 1980). Prior to this, the Department of Social Services, which operates programs designed to assist disadvantaged workers, indicated that very real gaps existed in the vocational service system, that W.O.R.C. programs represented only a beginning, and that more should be expected from the vocational education system and pre-vocational education preparation (Hickey, 1979). Further to this, on March 31, 1980, the Minister of Social Services, Mr. Tom Hickey, announced a major review of institutional and related community-based services for developmentally delayed citizens in the Province as a follow-up to the 1977 review of Exon House. Hickey stressed that the purpose of the study will be to provide him with a guide for the planning, as well as the implementation, of policies and programs to meet the developmental, social,

educational, emotional and training needs of each individual who receives or requires services from the Department of Social Services. A statement of the viewpoints and major issues which emerge from expert consensus can provide valuable information to assist in such planning.

While the Department of Social Services administers specific programs designed to equip mentally retarded people with work skills, other Departments (e.g. the Provincial Department of Labour and Manpower, and the Federal Department of Employment and Immigration) have input into decision making and the allocation of training funds (Everard, 1979). In recent years, the Federal Department of Employment and Immigration has also developed counselling and other services for disadvantaged and special needs groups (e.g. Canada Manpower Disability Program, Basic Job Readiness Training Program -- B.J.R.T.), in addition to their training and mobility programs, which are available to those mentally retarded individuals who can benefit from them. The Basic Job Readiness Training Program is co-sponsored with the Department of Education and places its emphasis on making the participant ready for the labour market. Employment and Immigration involvement and funding through the Local Employment Assistance Program (LEAP) and the Department of Regional and Economic Expansion (DREE) was also obtained in 1979 to initiate a sheltered industry, Island Furniture, situated in St. John's and employing several handicapped and non-handicapped individuals. The Department has also initiated a program to encourage employers to hire

disabled people and to enhance the employment opportunities for such people (Everard, 1981). This experimental program, the Program for the Employment Disadvantaged, is designed to stimulate continuing employment in the private sector by paying 85% of gross wages for up to thirteen weeks, 50% for up to 26 weeks, and 25% for a further 26 weeks. However, as Johnston (1980) indicates, before it does anything else, the federal government must assess its own employment practices. He recommended that the Canada Employment and Immigration Commission undertake a thorough review of its provision of services to all "special need" clients and, in particular, give serious consideration to the future of outreach programs. Beyond indicating that the federal government should serve as a model and standard for all employers, he emphasized that the government must commit itself to amending or replacing the Canadian Assistance Plan Act and the Vocational Rehabilitation for Disabled Persons Act to redress the flaws and gaps in the legislation and that such a process should occur in consultation and cooperation with the provincial governments and other affected and interested bodies.

In response to pressure from a number of interested and concerned groups, the newly elected Conservative government in 1979 set up a Special Parliamentary Committee on the Disabled and the Handicapped. The Committee was charged to identify the key obstacles faced by disabled persons in Canada, and to outline practical actions which would help to overcome these obstacles. The Committee reported to the thirty-second

parliament of Canada during 1981 which was the year proclaimed by the United Nations' General Assembly as the International Year of Disabled Persons. In its report entitled *Obstacles*, the Committee outlined one hundred and thirty recommendations spanning a wide range of subjects. The members of the Special Committee unanimously agreed that the principles of participation, responsibility and self-help should be embraced by all Canadians and they used these principles as the basis for their recommendations (Vickers, 1981). These three principles were elaborated as follows:

Participation: Disabled Canadians must have the same opportunity to participate fully in all of the educational employment, consumer, recreational, community and domestic activities which characterize everyday Canadian society.

Responsibility: All Canadians are responsible for the necessary changes which will give disabled persons the same choice of participation that are enjoyed by those who are not disabled.

Self-Help: Disabled Canadians are often best able to help themselves through their own service and advocacy organizations.

(Obstacles Report, 1981, p. 4)

Among others, the recommendations made were intended to achieve the following objectives for disabled persons:

- Achievement of adequate income
- Support for promotion of self-help efforts, and
- Equal access to a full range of opportunities in employment, housing, education, transportation, recreation, and communication information.

(Obstacles Report, 1981, p. 5)

The Obstacles Report outlined twenty recommendations regarding the employment of disabled persons that call for



legislative, fiscal and organizational initiatives on the part of the Federal government. In shortened form these recommendations are as follows:

- Expand affirmative actions employment programs for disabled persons in the federal government
- include affirmative action progress criterion for evaluating government managers
- broaden definition of "handicap" in special hiring practices
- support affirmative action programs by providing technical aids and expertise
- expand home employment for disabled persons
- amend employment act to protect federal employees who become disabled
- require employers under federal jurisdiction to hire disabled persons
- no federal contracts for private firms unless disabled persons are hired
- give affirmative action board power needed to make program effective
- use Section 19 of the Canadian Human Rights Act to prevent discriminatory practices
- establish senior advisors to Minister of Employment on needs of disabled persons
- purchase more goods and services from sheltered work settings

- make business grants and loans available to disabled persons
- explore agricultural job opportunities for disabled persons
- improve services to disabled persons at employment centres
- increase coordination between government and private sectors regarding employment
- give higher priority to needs of disabled persons in special programs
- protect employees in private industry who become disabled
- replace Vocational Rehabilitation of Disabled Persons Act (VRDP)
- implement affirmative action program in new post office legislation

The Report recognized the difficulty in expecting to find adequate sums of new money for innovative programs, some of which will cost significant amounts and urged the Federal government to

reassess their spending priorities and thereby find monies which are currently being spent on programs which are directed to those who are neither physically, mentally nor financially handicapped. Without increasing public spending, Canadians have an opportunity to meet the needs of our disabled citizens, and thus join the ranks of those countries who can be proud of the way they recognize the human potential of everyone. (Obstacles Report, p. 6)

The Committee Report further points out that integration of the

disabled into the community is much less expensive than sterile institutionalization and would save taxpayers millions of dollars (Dinsdale, 1981). In commenting on the Report at a public hearing in Toronto, David Smith, Chairman of the Special Committee, sums up the emphasis of the Report by stating:

Disabled persons are not asking the Federal Government for a hand out, but for a hand up, so that they can build for themselves lives of independent choice and action. Ottawa must do certain things before this can happen. Disabled persons will do the rest. (Obstacles, 1981, p. 1)

The Initial Response of the Government of Canada to the Obstacles Report was tabled in December of '81. It responded to only seven recommendations and outlined very few new initiatives and developments. Although the Obstacles Report emphasized the importance of prompt inter and intra governmental action and cooperation, the most serious deficiency in the Initial Response to Obstacles was that the Federal government ignored the recommendation for all government organizations to respond quickly to Obstacles proposals (Young, 1982).

The Report of the Task Force on Labour Market Development in the 1980's, prepared for and distributed by the Federal Minister of Employment and Immigration, was also tabled in 1981 and made many similar recommendations. The Task Force emphasized that the Federal government must exert leadership in affirmative action and progressive employment schemes for special groups such as the handicapped and recommended a re-structuring of federal support for training programs which would shift the emphasis from support for university education to support for

job training. Gold (1982) points out that it is extremely important for educators to respond to such proposed federal initiatives in labour market development by examining how they can become involved in such areas as: work study and other pre-employment programs, Advisory Councils on employment and assisting handicapped youngsters to acquire occupational skills.

The Newfoundland Department of Education is becoming increasingly involved in the provision of such services. Beyond its co-sponsoring of the B.J.R.T. Program located at Bond Street, St. John's, through its Adult and Continuing Education Division, the Division of Special Services has established guidelines for work experience programs for trainable mentally retarded students and initiated programs in such centers as St. John's, Gander, and Grand Falls.

In order to provide a full range of services, special education must be interrelated with other services, such as those provided in the area vocational-technical schools, vocational education programs, training settings in business and industry and other work activity programs (Special Education Services, 1981, p. 20). However, there are very few of these services available in the communities to coordinate with these work experience programs to meet the needs of such individuals; training programs (work adjustment, vocational skill, personal adjustment) and employment programs (sheltered, semi-sheltered, competitive) are still limited. Further to this, no specific strategy for the implementation and coordination of vocational services has been developed and very few mechanisms have been

established to facilitate the interaction of community-based alternatives with school-based programs. The Work Experience Program at Pine Grove School has established some of these mechanisms through its part-time placement of students at Vera Industries (a sheltered work-shop), Island Furniture (a sheltered industry) and in competitive employment settings; however, the options are less developed in other communities. In addition, it appears that the provincial government must assess its own involvement and employment practices with regard to participation in such programs. In commenting on the creation of community-based alternatives, Spracklin (1981) pointed out that businesses and local employers were actively participating in these programs and that the responsibility for more alternatives rested with the government. Incisive decisions will have to be made in the 80's to guarantee that mentally handicapped people will not only become accepted members of society, but, of far greater importance, that they will be given the opportunity and responsibility to share in the making and direction of that society (Andrews, 1980).

An increasing number of professionals, agencies and levels of government are becoming involved in services and programs for mentally retarded people, as well as other disabled people. In this regard, a recent statement by the Assistant Deputy Minister of Rehabilitation, Mr. Freeman Compton, indicated that

it would be desirable for the efforts of these agencies and the services they provide, to be coordinated. Some of them could be consumed by others even. But experience has shown that agencies normally resist being co-ordinated



or subsumed by other agencies. They have a tendency to perpetuate themselves. (Compton, 1981, p. 14)

Agencies and departments may tend to perpetuate themselves; however, the importance of their co-ordinated efforts cannot be over-stated. Reports such as the CELDIC Report and the Exon House Report have clearly demonstrated the need for such coordination of services. Vocational services for trainable mentally retarded people in Newfoundland and Labrador are in their infancy, and the future development of such services appear to be very dependent upon this coordination. Service gaps, due to the lack of coordination, inflexibility of categorically defined programs and absence of services for one reason or another (but especially due to the unavailability of needed funding) translate into tragedies for those with service needs (Magrab & Elder, 1979).

A revitalized Inter-Departmental Committee on Mental Retardation which ideally coordinates the efforts of all of the departments involved in the development of services, and which was charged to identify a specific strategy and establish standards for the implementation of a community-based service network, appears to have fallen short of its goals. The lack of provision of such services, as well as the non-development of future policy for services, tend to indicate that the Committee's goals were ideal and not operational and that the co-ordinated efforts of agencies and departments did not eventuate. Aiken et al. (1975) identified two elements that they considered to be crucial to the effectiveness of service

co-ordination (1) the meeting of client requirements, and (2) the meeting of administrative requirements. An effective coordination system requires that both needs be met and provides both (1) the focus on individual needs within an integrated system and (2) the focus on systematic planning of the total service delivery program (Roessler and Bolton, 1978). Coordination includes not only comprehensiveness (all parts existing) and compatibility (existing parts appropriately sequenced and linked) but also cooperation (the degree to which collaboration and integration exist among the elements in a system) (Magrab & Elder, 1979). Likert (1967) viewed cooperation in the sense of "favorable attitudes and confidence and trust," as a necessary condition of coordination within and between organizations. It follows, then, that gaining the cooperation of the various professionals involved with vocational services for mentally retarded people, as well as exploring ways to obtain such cooperation, facilitates the coordination of services as well as agreement about organizational "domains" -- what each department or agency should be doing. Such cooperation might not only facilitate the development of new service options, but might also further develop options that are in place but under-used. If the various agencies begin working in greater harmony and respect for each others' contributions, services to handicapped persons will meet their career development needs (Brolin and Kokaska, 1979). Using a cooperative effort to indicate ways in which vocational programs and services can fit into a delivery model and which services

are required/redundant can provide valuable insight towards the fulfillment of such needs.

Vocational services currently operated by the Provincial Department of Social Services for trainable mentally retarded people include (a) one sheltered workshop, and (b) three work training centers. A number of studies have examined sheltered workshops and have found them to be deficient in terms of client remuneration, work complexity and client placement (Lynch and Gerber, 1980). As Mallas (1976) points out:

If we could put all sheltered workshops on true balance sheets and equate human good as well as economic well being, most would be bankrupt in both categories. The return in human good, as well as positive economics, does not justify the existence of most of them. (p. 341)

Wolfensberger (1972) states that segregated services, by their very nature, are inferior services and are self-defeating in any context that is claimed to be habilitational. Although it appears that there will continue to be a need for such workshops for some individuals, the trend is towards better and more comprehensive provisions for sheltered employment in a variety of settings (Gearheart and Litton, 1979). Similarly, there will continue to be a need for centers which develop work adjustment skills such as the W.D.R.C.; however, the focus must change from activity to developing a basic understanding of work (Du Rand and Neufeldt, 1975).

The services presently being administered by the Department of Social Services tend to use the concept of a service centre emphasizing one service, as opposed to a continuum of services,

despite the fact that recent research has indicated that the trainable mentally retarded:

- (1) can participate effectively in ~~far more vocational opportunities~~ than are usually provided;
- (2) are capable of producing qualitatively and quantitatively at a level above what is presently found;
- (3) can earn significant wages performing economically useful work. (Litton, 1978)

Faulkner (1979) further reported that research studies in the past few decades have demonstrated that, with appropriate training procedures and techniques, the developmentally handicapped are capable of performing complex industrial tasks.

As an alternative to this service centre approach, modern decision and systems theory dictates that multiple paths are available for attainment of goals and that as many options as possible be defined and made accessible. Wolfensberger (1974) indicates that an approach which stresses many path options suggests a variety of effective ways in which services might be delivered:

When proposing a single path service structure, with few alternatives which allow for flexibility in meeting various service needs, one must be reminded that it is frequently possible to arrive at the same end through a variety of means. The most effective system for one region is not necessarily the most effective for another region where size, social patterns, economic situation, population structures, etc. may vary greatly. Any approach which unnecessarily restricts options is one that is apt to let the approach define the service, or limit the effective ways in which services might be delivered. The means may become the end, instead of the end remaining the foremost concern. (p. 23)

To realize an effective systems approach to vocational services for trainable mentally retarded people in Newfoundland and Labrador, the provincial "community of advice" must be used. The use of such people provides valuable information from the local and provincial context regarding vocational needs of trainable mentally retarded people, enhances the development of path options and furthers the realization of a systems model, a continuum of services and a total service plan.

Total service planning is incumbent upon service providers, particularly with public attention being paid to cost-benefit analyses and government attention being focused on the operation of services to achieve the "greatest good for the greatest number." When there is no total service plan, goals are not set, or even if they are informally, they may differ among various agencies or people working with the trainee. The most serious issue facing service planners for developmentally disabled people is whether such services achieve the intended effects (Cohen and Kligler, 1980). Developing a service plan requires establishing goals and the procedures for achieving them. If the goal of vocational training is to promote functional independence, then it is important that habilitation programs provide industrial tasks for training purposes, and not merely offer the individual a place to work to keep him busy (Faulkner, 1979). Rather than simply exposing the individual to work, vocational programs and services should be concerned with using occupation as a tool for teaching concepts and applying training techniques toward habilitation. (Brown,



1977). Beyond providing direction to the service providers and facilitating communication between them, total service planning also aids decision making (Rusch and Mithaug, 1980). Once the total service plan and philosophy have been established, training objectives can be modified and interpreted relative to the needs and abilities of each individual. This emphasizes the need to provide a comprehensive continuum of services designed for the acquisition of skills which will be transferable to a range of community situations.

Support from administrative decision makers, time to redirect curricula, attitude changes, cooperative efforts, and a recognition of the direction of change are but a few of the many needs existing in most communities (Brolin and Kokaska, 1979). Major societal changes do not occur overnight; however, if optimal career development is to become a reality for trainable mentally retarded people, dramatic changes in our service delivery system are required. Using the "community of advice" to forecast on the future developments in vocational services and delivery systems for these people provides useful direction for programming and the development of services. As there appears to be a widening gap between consumer and advocate expectations and the resources (human, fiscal and political) available to mental retardation service providers to bring about the fundamental changes in service delivery which are being demanded, the use of these experts to predict future developments provides valuable information to be used by governmental decision-makers when giving consideration to funding of

service programs. In the words of Helmer (1967), public policy decisions must be made promptly, or they will be made by default.

Beyond recommending study and development of a model system of vocational habilitation for the developmentally disordered, Menolascino (1977) stressed that the focus has to be placed on determining which operational-programmatic trends are now on the horizon and selectively supporting these "glimpses of the future." Schwarz (1976) writes that a sophisticated or analytical method of making forecasts consists of the building, developing or adopting of a systems model and the subsequent investigation of this system aided by the model. In his 1967 book, The Art of Conjecture, de Jouvenel, a father of futurism, indicated that forecasting and decision making have to be brought into a meaningful relationship stating that our need to make decisions and our ability to make them are the chief practical justification of forecasting. Weaver (1970) further indicated that the value of forecasting lies in convincing people to act. Forecasting, planning and programming are all aspects of decision-making, and a decision is not made without some idea of what to expect; if that idea is made explicit we clearly have a forecast (Quade, 1975). Plans and programs (more detailed plans) are developed on these forecasts to increase the chance of getting what is needed. It follows, then, that once a broad plan is developed a more detailed plan (program) of operations can be devised, i.e. resources to be committed and sequence/s of actions. For decision-making, the

value of a forecast does not necessarily lie in whether it comes true; rather, its utility is in helping decision-makers choose a satisfactory course of action (Quade, 1975).

Forecasting is a prerequisite to planning which, like policy analysis, is directed toward improving decisions. Such forecasting tends to assume some set of definable causal relations between events through which one can predict future states (McHale, 1978). Loe (1978) writes of an approach to the future which goes beyond straight prediction and views human relation to the future as encountering the use of intervention to try to shape the future to our desire, as well as prediction. These two, prediction and intervention, form the fundamental dialectic, or process complementarity, for all advancement into the future; however, there is often such a lag between prediction and intervention that they are viewed and handled as separate operations (Loe, 1978). De Jouvel (1967) and Kahn (1972) attacked the problem of the prediction-intervention lag by creating forms and organizations to publicize distressing futurist information, in order to encourage intervention by the powerful to "unstress" the future; Helmer (1967, 1974) further developed their work by creating a new cohesive, small scale, practical method for beginning to wed the two, the "Delphi Technique." Several other methods and techniques have also been devised to assist in future-planning activities (e.g. scenarios, trend extrapolation, cross-impact analysis, images of the future, intuition, science fiction, and modeling). By using one or a combination of several of these techniques, it

is possible for future-planners not only to anticipate changes in the future, but also to make preparations to deal adequately with the changes (Jetter, 1972). The "Delphi Technique" is used in this study in conjunction with another future planning activity, modeling, to investigate a systems model of vocational service delivery for trainable mentally retarded people.

The "Delphi Technique" has been found useful as a forecasting method, as a means for increasing the reliability and validity of "expert" judgements and as a communication system for policy questions. Basically, the "Delphi Technique" is little more than a sequence for inviting experts in the area in question to answer and discuss a series of questionnaires so that at the end of the process, one generally has a numerically descriptive prediction of futures that show both the central tendency for majority opinion and the range of minority disagreement. Delphi's primary goal is to enable decision makers to make better subjective judgements about future alternatives through the provision of relevant information. Those whose job it is to arrive at the plans and policies for the future are rarely satisfied with the information available to them or the way their choices are implemented (Fowles, 1978). Information in the form of hard data is frequently not available; however, information in the form of informed and considered opinions and judgements frequently aids in clarifying objectives and identifying alternative means of attaining them. The typical behavior of a policy maker who is faced with making a decision on an issue in which he lacks understanding is to rely on the

judgements of "experts." Furthermore, given the complex problems that confront us and the fact that no single individual can be fully informed about his discipline and the inter-disciplinary nature of social issues, it is necessary to find some way to use expert knowledge (Allen, 1978). Often the policy maker must decide between opposing viewpoints or find some method to get the "experts" to agree. To do this, it is necessary to find some way to enable these experts to communicate, so that information can be drawn from them individually (Toffler, 1972).

The "Delphi Technique" offers a systematic method for consulting expert opinion that tends to eliminate interpersonal bias. The technique encourages sound future-planning by focusing on the participants' thinking about the future, their awareness of alternative future options and the assumptions they hold about such options. In effect, Delphi is philosophically grounded in the notion that several minds are better than one in making subjective estimates or predictions about what should be done in the future, that "experts" or informed people, within a controlled communication environment, free of personal pressures, make judgements based on rational thought and shared information rather than merely guessing, and that they ultimately reach sound conclusions on which coping policies can be built (Allen, 1978).

Data from a number of future-oriented studies suggest that meaningful future-planning results when experts in a discipline determine together what should happen to that discipline in the future and then determine how to achieve the desired future.

status (Day, 1973; Fowles, 1978; Helmer, 1974; Hudspeth, 1972; Jones and Twiss, 1978; Linstone and Turoff, 1975; Morphet and Jesser, 1969; Toffler, 1972; Yates, 1972). Future planning based on informed judgements about the future enables man to exert considerable influence over his future, to give it direction, rather than to let it happen (Jetter, 1972).

Application of the technique derives from the realization that the opinions of influential individuals in a given field of inquiry have significant effect on the direction of future development in the field (Linstone and Turoff, 1975). In the absence of a theoretically convincing reason for selecting a particular action on a particular policy for action, we turn for advice to the experts (Helmer, 1974). The viewpoints of the "experts" tend to indicate the best or most desirable options for service development. The focus of this study is placed upon what the participants/experts would like to see happen, as opposed to what is likely to happen, and upon the systematic investigation of these viewpoints, using Delphi technology.

Beyond humanitarian reasons, consideration of the extensive rate of unemployment among trainable mentally retarded people and the fact that these people are one of the hardest groups to train and place, as well as the enormous costs involved in the maintenance of these people, gives the resolution of future planning issues considerable pragmatic value.

This study is also significant because it identifies the options for services which are considered viable by the "experts,"



and further identifies ways in which existing services and programs fit into a systems model and which services need to be added, improved or are redundant. This information is available to assist in the reorganization of existing services and for decisions about funding of new and expanded services, so that the goal of the "greatest good for the greatest number" might be met.

#### Research Questions

1. What do provincial "experts" in the field of vocational services for trainable mentally retarded people report to be the most significant future trends and developments in this area?
2. What are the rationales used in the development of these points of view?

In addition to seeking answers to the above research questions, the following hypothesis is tested:

Hypothesis: The variance of responses around the median response decreases with increasing number of rounds (if all other relevant factors remain unaltered).

## Definitions

### Community of Advice

The group of participants involved in the study --- the "experts."

### Consehsus

The judgement arrived at by most of those concerned.

### Delphi Technique

The Delphi Technique attempts to make effective use of informed intuitive judgements by identified experts in a given field of inquiry about the future condition of that field. It employs a series of questionnaires interspersed with information and/or opinion feedback derived from previous questionnaires.

Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a problem (Linstone and Turoff, 1975, p. 3).

### Expert

Rescher (1969) defined an expert as follows:

A person who is able to bring to bear his background information in a way that is not systematized in a pre-defined analytical model but involves informed judgement based on inarticulated data. He is thus able to base his assessment not only upon overt trends, but also upon underlying regularities and a general informed appraisal of the phenomenology at issue. (p. 106)

The following guidelines were used for the identification of "experts" to participate in the study: An expert is one who

has direct experience in, or sufficient knowledge about, vocational services for mentally retarded persons to the degree that he can make knowledgeable predictions about the future developments of such services (professionals in the field who are involved in supervision, administration, coordination or other aspects of programming). He also has knowledge of the local and provincial context in which services will be offered. Simply put, an expert is one who has knowledge about a certain area of inquiry or problem.

#### Future

The future is identified as being some ten to fifteen years hence, i.e. 1990-1995.

#### Service Centre

A physical structure within or around which services are rendered.

#### Trainable Mentally Retarded People

In their most recently released manual on Terminology and Classification in Mental Retardation (Grossman, 1973, p. 5), the American Association on Mental Deficiency issued the following definition:

Mental retardation refers to significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period.

Trainable mentally retarded (TMR) people range in I.Q. (Wechsler) from 40-54. Their intellectual ability is

approximately one-third to one-half of that of their average age peer (Gearhart, 1980). They can be expected to attain only limited achievement in traditional basic academic skills but have potentialities for training in self-care and simple vocational skills. Kirk (1972) referred to trainable mentally retarded people as having characteristics indicating capacity of profiting from work in (1) self-help skills, (2) social adjustment, and (3) economic usefulness in controlled work settings.

#### Vocational Service

Activities designed to help or benefit persons being in, or relating to training in, a skill, trade or area to be pursued as a career.

#### Limitations

- (1) The findings are not generalizable to all parts of the Province because of geographic, demographic and other considerations.
- (2) The findings may not be applicable to services for all trainable mentally retarded (TMR) people in the Province (e.g. some of the TMR are multi-handicapped, requiring other service considerations).
- (3) The ratings of identified future developments are limited to the perceptions of those people who participate in the



study. However, the assumption is made that the participants are as qualified as anyone, and better than most, to predict future developments in this field. It is also assumed that the combined knowledge of panel members produced predictions at least as good as those that would be produced by any one member.

- (4) The Delphi Technique lacks a completely sound theoretical basis due to the fact that it is concerned with the use of experts' opinions and that experts are rarely available as experimental laboratory subjects.

## CHAPTER II

### REVIEW OF LITERATURE

Preparation for this study requires a review of literature in two major areas: (1) research dealing with vocational services for trainable mentally retarded people, and (2) research dealing with future-planning with specific reference to the Delphi Technique, which will be the research method used in this study.

Literature from each of these sections is reviewed in separate sections of this chapter.

#### Section 1: The Historical Development of Vocational Services for Trainable Mentally Retarded People

##### The Early History (pre 1950)

History reminds us that what is past is prologue to the present and what is present is a rearranging of ideas, a new patterning of events (Schulman, 1980). Santayana (1906) pointed to these notions in emphasizing the importance of seeking roots of current events in past events stating: "Those who do not remember the past are condemned to repeat it." In order to effectively prepare for the future, one must give consideration not only to the present status, but also to the past.

A glance at the history of vocational services for



trainable mentally retarded persons reveals that these services are in their infancy. Although historical events and the reactions associated with them indicate changing attitudes toward these people from Ancient Greece and Rome through the slightly over one hundred years of Canada (two hundred years of America) as a nation it has only been since the 1950's and 1960's that consumers, policy makers and human service providers have become increasingly sensitized to the need for improvements towards the employment and training of mentally retarded persons.

In ancient Rome, such people were considered nuisances. Parents relieved themselves of supporting these "creatures" who were only to be persecuted and despised (Rosen, et al., 1976). With the advent of Christianity, tolerance and care became the foremost response to handicapped individuals (Schulman, 1980). However, tolerance declined to apathy during the ten centuries of the Middle Ages. Persecution and economic exploitation prevailed throughout the Reformation Period despite the fact that individualism and the demand for the end of feudal bondage flourished. The Renaissance and the seventeenth century gave birth to the recognition of the worth of the individual and a more scientific empirical approach. The eighteenth century enlarged the role of scientific inquiry and witnessed new philosophies toward the care and training of mentally retarded people. The heredity-environment debate was prevalent and ignorance intermixed with assimilation and tolerance prevailed. During the nineteenth century humanitar-

ianism and developmental orientation created a positive influence and increasing recognition was granted to the significance of environmental forces in the development of the individual (Mesibov, 1978). However, with increasing industrialization, tighter markets for workers and urbanization, the mentally retarded individual became more of a burden and subsequent disinterest prevailed. Custodial care and medical orientation became the key features of protectorship of such individuals. By the end of the century the prevalent goals of those dealing with mentally retarded persons were to "make the deviant undeviant," to "shelter the deviant from society," and to "protect society from the deviant" (Wolfensberger, 1976).

The beginning of the twentieth century brought serious threats to the welfare of the mentally retarded persons (Schulman, 1980). The climate of the time favored those who were able to adjust themselves to the established pace. Institutions became warehouses for such people and their abilities were considered immutable. The prevalent view was that they could never be trained to serve a constructive role in society. The order of the day was to protect at all costs their contamination of the race. However, as the century progressed, this attitude began to change. Professionals began to question whether intelligence tests, such as one developed by Alfred Binet of France, actually determined intellectual capacity or the results of environmental experiences. New thoughts refuted the relationship between feeble-mindedness and criminality and the generality of heredity as a causative

factor in retardation (Mesibov, 1978; Rosén et al., 1976). More sweeping changes became apparent after the eugenics movement reached its peak in the 1920's (Schulman, 1980). Care and treatment practices began to change, leading to alternate educational practices and the emergence of vocational training. The atmosphere became favourable to the needs of mentally retarded people, but not for long. Acute depression enveloped North America and such people were considered unemployable and a burden; however, opinions did not return to the hard line of permanently isolating all mentally retarded persons in institutions. Two World Wars came and passed with little improvement in services to these people beyond the recognition that they had a greater potential than originally considered possible. In the early 1950's, civil rights became a rallying cry for many groups, including spokespersons for mentally retarded people.

The social unrest of the 1960's brought demands from minority groups for equal opportunity. Like others who have achieved less than their full share of rights and recognition, mentally retarded people emerged as a group with militant advocates and with spokesmen voicing demands for expansion of services, for availability of public school and community programs, for the improvement or complete abolition of institutions, and for civil rights available to the ordinary citizen (Rosen, Clark and Kivitz, 1977).

### The Sheltered Workshop Approach (1950's and 1960's)

In the late 1950's the association for the Help for Retarded Citizens established in New York City the first sheltered workshop training center for mentally retarded people in North America (Schulman, 1980). By the end of the 1960's, over two hundred (200) of these workshops had been opened across the continent and by the end of the 1970's over two thousand (2,000) had been opened (Litton, 1978). Bernstein (1970) and Lacey (1972) indicated that these workshops fall into three categories or types; however, because of the variety of needs served, levels of impairment of the clients, or simply location, they may exhibit some of the characteristics of all three or may be housed within the same facility by providing evaluation and training programs which would determine the individual's potential. The three types of workshops are as follows:

1. Vocational Rehabilitation Training Center

- provides assessment and a work training program to assist the client to progress toward competitive employment.

2. Sheltered Workshop

- provides on-going remunerative employment for those who appear unemployable in the open labour market; however, the emphasis is placed on training which might enable the individual to develop skills to permit such employment.

### 3. Occupational Activity Center

- serves clients who will rarely, if ever, be able to compete in the open labour market with the emphasis on the acquisition of skills relative to daily living and social functioning.

Ingalls (1978) indicates that workshops serve a number of different and often conflicting purposes. The primary goal is to prepare handicapped clients for eventual competitive employment. A secondary function of many workshops is to provide a relatively permanent place of employment for those individuals who are unable to work in competitive employment. A third function is the workshop's role in industry and commerce, i.e. getting work, earning money and paying clients. Evaluation is a fourth function of the workshops, i.e. determining vocational potential.

The actual training process in a workshop is often not very well designed (Ingalls, 1978). Clients are assigned to work stations, and a supervisor, who usually has little training in mental retardation, simply shows the clients what to do and then watches to make certain that they are doing the job correctly. Gearheart and Litton (1979) write that, in practice, each workshop should have a combination of several of the following programs, although not necessarily all of them, starting with (1) physical and mental conditioning and (2) personal-development training, and including (3) employment preparation programs, (4) vocational skill development programs,



and finally (5) sheltered employment programs. Although such programming may be appropriate for some individuals, it is also important to keep the limitations of workshops in mind. To begin with, low levels of productivity represent one of the most complex problems confronting such workshops (Cohen and Close, 1975). Often, such levels are tolerated as the norm. The workshops also serve to segregate the handicapped worker, thus perpetuating the devalued image of handicapped people (Ingalls, 1978). Also, they provide few positive role models of successful and effective workers and are more in harmony with deviancy than normalcy (Power and Marinelli, 1974). Wolfensberger (1972) writes that when a person is perceived as deviant, he is cast into a role that carries with it powerful expectations. That is, role-appropriate behavior, dictated by environmental events and circumstances, will often be interpreted as a person's "natural" way of acting. He further states that when deviant individuals work for and with other deviant persons, or when deviant persons socialize intensively and perhaps exclusively with each other, it is almost inevitable that a climate or subculture is created that increases rather than decreases the deviancy of those within this climate or subculture. The lack of achieving two of the important integrations of life, namely the physical and social, constitutes one of the main limitations arising from the workshop environment (Power and Marinelli, 1974; Theobald, 1981).

Andriano (1977) writes that workshops have low visibility in the community and can reinforce the attitude that the

mentally retarded person needs a special, segregated setting in which to work because he is not appropriate to enter the normal community work setting. Olshansky (1973) believes that for some clients the workshop may serve as a negative agent because it is to them a symbol of failure and hopelessness.

Mallas (1976) writes that workshops have three major strengths: (1) a unique instinct for survival; (2) the ability to be flexible, permitting rapid change, or the deletion of outmoded programs and (3) the ability to serve as an essential employment resource for the marginal worker or workers which business and industry will not and do not wish to employ. He went on to indicate that the weaknesses in current workshop practices are greater numerically than the strengths, embracing organization and operation programming. From an organizational standpoint (1) most do not have a clear understanding of their particular mission in the community, (2) management and staff are frequently confused and in conflict when roles and goals aren't spelled out, (3) industry often has a misconception of the workshop's role, (4) boards of directors frequently seem reluctant to apply the principles and standards of business and management, (5) managers and staff are often undertrained. From an operational standpoint (1) workshops generally are undercapitalized, and operate in a hand-to-mouth type of existence, and (2) professional personnel have little realization of the economic aspects of their functioning within a workshop and tend to accept little responsibility for generating sufficient revenue. From a programming point of

view (1) few workshops have been successful in combining the rehabilitation and production functions and end up doing a questionable job in both areas, (2) most workshops are not geared to conditioning a client physically to working 7½ to 8 hour days and (3) workshops have not been adequately used to provide employment opportunities for the worker who simply has very little work stamina and will never be able to work a full day. Creasy (1972) writes that often workshop settings, because of the concern of an active local branch association for the mentally retarded, are established in areas with limited potential for economic growth and are thus destined to struggle always with little support or interest from business and industry. Greenleigh Associates Ltd. (1975) and Lynch and Gerber (1980) report that a number of studies have examined workshops and have found them to be deficient in terms of client remuneration, work complexity, and client placement. Kivitney and Landover (1979) also found them to be deficient in terms of client compensation, agency management and rehabilitation philosophy.

To provide a more realistic work environment, Litton (1978) and Power and Marinelli (1974) suggest the following:

1. The client's efforts should have economic value with wages related to productivity.
2. Clients should be treated with normal expectations, i.e. work regularly, lunch, break, rules and regulations, etc.
3. Vocational training environments should be more

challenging, i.e. in a regular business location, wide variety of work tasks.

4. There should be a change in the attitude and behaviour of staff.

### The New Approach (1970's and 1980's)

#### (A) Guiding Principles and Theories

In the past, programs for trainable mentally retarded persons were devised to occupy their time with little provision for training (Gold, 1973; Litton, 1978; Whalen, 1977).

Gold (1975) believes that low expectancy on the part of society is perhaps the single most critical deterrent to progress in the field and that this attitude largely accounts for the reason mentally retarded persons are relegated to mundane, menial tasks which require minimal training. He states, "we have established an expectancy cycle which perpetuates low levels of success and low functional employment capabilities." The importance of community education on the needs and abilities of trainable mentally retarded people cannot be overstated (Faulkner, 1979; Ligado and Unterwagner, 1975).

A number of writers and researchers have identified deficiencies and gaps in vocational training for trainable mentally retarded persons that cannot be alleviated by a workshop approach. Boyan (1980), Broolin (1976), Conley (1976), Ingalls (1978), Morgenstern and Michel-Smith (1973), Olshansky

(1970), Rosen, Clark and Kivitz (1976), Steinman and Traunstein (1977) and Stewart (1977) recommended the implementation and development of improved training services for these people.

Concurrent with the recognition of deficiencies and gaps in vocational training for mentally retarded people was the development of a more favorable and progressive attitude towards these people. This attitude change was largely due to an increased respect for the dignity and rights of each and every individual. A number of principles and theories became widely recognized and accepted and began to influence the vocational training of mentally retarded individuals. The more prominent of these principles and theories are briefly outlined and discussed below:

#### Dignity of Risk

In focusing on the present, Perske (1972) clearly delineated the role of risk-taking behaviour as a prerequisite for all human psychosocial development, whether in mentally retarded or non-mentally retarded individuals. He notes that the dignity of risk has been traditionally avoided for mentally retarded people and replaced by a protective-dependent approach which tends to stunt their personality and learning potentials. Menolascino (1977) points out that one must strike a balance between overprotection and underprotection and in doing so recognize that a limited---but only a limited---number of accidents are bound to occur. In the words of Perske (1972), "We have learned there can be such a thing as human dignity in risk. And there can be dehumanizing indignity in safety" (p. 26).

### Habilitation versus Rehabilitation

The concept of human dignity has become central to the basis of rehabilitation for mentally retarded persons, with the emphasis being placed on habilitation. There are those who argue that the term "habilitation should be used when speaking of education and training for such people" (Heath, 1975; Kiernan, 1977; Morgenstern and Michel-Smith, 1973; Rosen, Clark and Kivitz, 1977). It constitutes an intellectual shift from the focus on disability to a focus on ability, from an emphasis on individual liabilities to an appraisal of individual assets (Daniels, 1974). Their point is that "rehabilitation" indicates a process of going back or returning to a level of living. For some handicapped individuals, the term "rehabilitation" clearly means a returning process, one which helps that individual regain a lost capacity. For mentally retarded people, the process is one of continuous learning which enables the individual to develop toward greater independent functioning. However, as Magrab and Elder (1979) indicate, the distinction between habilitation and rehabilitation is becoming less significant both legislatively and programmatically. In recent years, the term rehabilitation has been stretched to include, in its definition, the development and preservation as well as the restoration of the handicapped to the fullest physical, mental, social, and economic usefulness of which they are capable.

Gunzburg and Wolfensberger have defined habilitation from a developmental rather than a predictive frame of reference in



terms of "social competence" and "normalization."

Social competence is manifested by the extent to which the individual is able and willing to conform to the customs, habits and standards of the behavior prevailing in the society in which he lives and by the degree to which he is able to do so independently of direction; and by the extent to which he participates constructively in the affairs and conduct of his community (Gunzburg, 1968, p. 15).

Normalization is described as the utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics which are as culturally normative as possible. (Wolfensberger, 1972, p. 29)

Both definitions imply a dynamic, ongoing process and attach as much importance to living and social skills as job success (Esgrow, 1978).

#### Normalization

The principles of normalization have played a vital role in improving services to mentally retarded people. To affirm the humanness of such people, Bank-Mikkelsen championed the inclusion of the principle in 1959 Danish law authorizing services for mentally retarded persons (Wolfensberger, 1972). Nirje (1969) and Wolfensberger (1972) reformulated the principle, tying together its aspects as a process and goal, as a means and end. Wolfensberger (1972) writes:

As a means normalization requires that programs and services for mentally retarded individuals should approximate as closely as possible the environmental stimulation and procedures that are similar to those existing in the "normal" community. As an end normalization strives to establish behavior and appearance of such people that would be less "deviant" and more like the individuals in the community in which they live.

The principle is the guiding force behind the Nebraska plan under the auspices of ENCOR, the Eastern Nebraska Community Office on the Retarded (Wolfensberger and Meno-lascino, 1970) which has led to the development and implementation of a model program for mentally retarded citizens. As Mesibov (1976) points out, it has provided a reasonable structure and practical procedures that have enabled the workers in that state to focus on actions and programs instead of on philosophies and alternative strategies. However, he further indicates that the major difficulty involved in assessing the effectiveness of the normalization principle is the lack of appropriate criteria. He states that the normalization principle is not amenable to conformation or refutation. However, Wolfensberger and Glen (1975) have developed a tool for evaluation of normalization entitled PASS, Program Analysis of Service Systems. They state that PASS provides a method for the quantitative evaluation of human services and measures the degree of conformity to the normalization principle of the service system. In commenting on PASS, Schulman (1980) cautions that the human element of personal value systems, idiosyncracies, and preferences can effect the evaluator's findings and the analysis of these findings. Wolfensberger and Glen acknowledge that the empirical underpinning for the principle is weak; however, they justify its use by saying that the costly ineffectiveness of current service patterns cannot await careful evaluations of alternative systems (Mesibov, 1976).

Mesibov continues by stating that although the principle

itself is hard to verify, several of its underlying assumptions are not and that those that are amenable to empirical verification have not been supported by data. He points out that the assumption that integrating mentally retarded and non-retarded people will develop positive attitudes in the latter toward the former, has not been validated and reinforces the notion that normalization alone will not necessarily cause desirable changes in public attitudes. This points to the need for public education programs in conjunction with normalization.

Mesibov also faults the normalization principle because it deals with service systems instead of individuals. Although the point that human services that are not based on individual needs may be misdirected appears to be a valid one, one cannot underestimate the relationship between the service agency and its clients in general. Normalization purports to focus on the normalizing characteristics of service systems and not on individualization, which probes deeper into the uniqueness of each individual.

Mesibov also points out that normalization as a guideline neglects a common observation that doing what others are doing is not necessarily doing what is right or what gives one dignity and satisfaction. Although this point may have some significance with regard to certain regions or communities because of socio-economic conditions and levels of education, the goal of creating conditions for mentally retarded people that are similar to those affecting the average person should

not be under-valued.

Mesibov also pointed out that the normalization principle contradicts the fact that most mentally retarded people do, in fact, need extra help. It is undoubtedly true that one cannot deny that such individuals are handicapped; however, the importance of placing this handicap in its proper perspective cannot be over-stated. Handicapped people are people first; their handicap, regardless of its degree, is secondary.

Schulman (1980) reports that ideological difficulties developed when professionals attempted to define normalization in terms of its significance as a process, as a means or training procedure, and as an outcome or an end for this training process. He states that there have been differences of opinion among professionals as to whether normalization could be considered as both a means and an outcome. As a means, it becomes important only if the procedures arising from normalizing expectations are the most effective/efficient and whether it may be more effective to apply non-normal techniques, such as conditioning and behavior modification. Thorne (1975) has pointed out that normalization ignores the fact that mentally retarded persons do not develop normally in response to normal procedures:

While specialized procedures may or may not succeed in helping mentally retarded persons to become more normal, they are the prescription of choice over normative procedures if more normal lives for these people are indeed the ends sought. (p. 23)

However, in general, the techniques that are less normal

decrease as the level of functioning of the mentally retarded persons increases and gradually the gap between normalization as a means and an end become narrower, until normalization as a process and outcome are the same (Schulman, 1980).

Beckman-Brindley and Tavormina (1978) also questioned some aspects of the normalization principle, which involved the relationship between mentally retarded individuals and the society in which they function. They argued that while the mentally retarded person is entitled to participate normally in human society, they are also responsible to that society and its rules of operation. The same principle that guarantees their right to work requires the same person to provide some product or service in return for pay. Often this is not the case. In addition, they state that professionals often work to normalize mentally retarded persons through the provision of abnormal and highly unusual support systems to make normal goals attainable to them. Normalization has at times been abused to mean that because someone is mentally retarded, she/he is entitled to unlimited resources from the social system and gains access to the normal world at a considerable expense. They add that sometimes the cost is to the mentally retarded individual himself when his own real limitations are overlooked in attempts to make him/her normal. Although they caution that the rights of mentally retarded people must be put in the context of constraints dictated by reality, with solutions not meeting the needs of one at the expense of the other, they recognize that the normalization principle has provided much-needed support to

help these people gain access to legitimate rights and rewards which they are capable of earning. The recommendation is that rather than adhering to prearranged formulae the focus should be placed on the use of the normalization principle as a part of a process to make good decisions regarding mentally retarded persons and the social system in which they function... Programs should set goals to insure success and not leave them open-ended, thereby inviting failure. The easiest part of the complex process of normalization has begun; what is now needed is a more detailed articulation of its ends (Conway, 1976).

Normalization, in spite of any dissension about means and end, is the most significant principle in terms of impact on present programs and services (Schulman, 1980). As an ideology or a way of thinking about people, it stresses the worthiness of all human beings, urges equality of opportunity rather than equality, and proposes rights for mentally retarded persons that are no different than those accorded nonretarded people. It follows, then, that each individual need not have the same standards to reach in deference to his/her strengths and limitations. It also emphasizes the need to provide training and special education services in all phases of living to enable mentally retarded people to become productive and socially adapted citizens in society (Faulkner, 1979). The principle assumes that if you treat someone as if he/she were capable of more normal functioning, his level of functioning will rise, and that most mentally retarded persons can make



career decisions and should be given opportunities to make them (Olshansky, 1973).

A prime example of the principle of normalization may be seen in the Declaration of the Rights of Mentally Retarded Persons, which was adopted by the United Nations General Assembly in December, 1971. The following statements were included in that declaration:

1. The mentally retarded person has, to the maximum degree of feasibility, the same rights as other human beings.
2. The mentally retarded person has a right to proper medical care and physical therapy, and to such education, training, rehabilitation, and guidance as will enable him to develop his ability and maximum potential.
3. The mentally retarded person has a right to economic security and to a decent standard of living. He has a right to perform productive work or to engage in any other meaningful occupation to the fullest possible extent of his capabilities.

For most of those who strongly support the normalization principle, there is full recognition that there will be many mentally retarded individuals who will continue to need a variety of protective functions, but such functions would certainly be minimized, and that there will be calculated risk-taking if normalization is to be seriously felt (Gearheart and Litton, 1979).

#### Least Restrictive Environment or Alternative

A precept which emerged in conjunction with the normalization principle is the least restrictive alternative/

environment. Miller and Switzky (1978) report that many consider that the premier illustration of the least restrictive concept stems from Reynolds' (1962) summary article. However, Freagon, Rotatori and Temple (1981) and Schulman (1980) state that the precept emerged from normalization. Although there are differing opinions as to whether the concept grew directly out of the normalization principle, few would deny that they are closely related. Gearheart and Litton (1979) referred to the principle as providing an educational/training program in a setting which is the least different from the program provided all other individuals and the least restrictive (environmentally and experientially) of all the program alternatives which are available and appropriate to his/her needs.

Steer (1981), in applying this principle to the range of work alternatives for mentally retarded people, considers the environment as a source of real income-producing work and appropriate peer models. He outlined placements on a continuum from most restrictive to least restrictive as follows: (1) at home (no real work), (2) at home with real work to do, (3) sheltered activity, (4) sheltered workshop, (5) sheltered industry, (6) work station in industry and (7) part and full-time competitive employment. He further indicated that because there is some risk in moving a person down the continuum, there is often a tendency for professionals and society to expect too little from these people. The formula for implementing the concept appears to be centered around the individual's present capabilities and developmental needs. Dunn and Dunn (1974)

state that the identification of the components of the least restrictive environments involves the best match between the handicapped persons' current level of functioning and their optimal environment for growth. The environment of the individual is least restrictive when it presents minimal hindrance to the progress and growth of the person; for example, the custodial environment can never be the least restrictive because it maintains the same behavior, is not developmental, and is restrictive for any individual (Schulman, 1980). Johnson (1980) believes that the major goal in the development of any educational or training program should be movement from more restrictive to less restrictive environments with programs being designed for individuals and not vice versa.

Larsen (1977) points out that the procedure involved in the identification of components and their matching to the individual's current level of functioning is complicated, due to the lack of valid and reliable psychometric devices and such concerns as: appropriate staffing ratios, required safety features and funding patterns. Freagon, Rotatore and Temple (1981) point out that federal regulations need to be redetermined to take into account their restrictive nature and how they are currently used. Miller and Switzby (1978) add that professionals need: (a) to determine restriction in view of impact across systems that a child inhabits; (b) to be extremely careful of the dimension selected for describing existing environments; (c) to increase the flexibility within environments;

and (d) to foster cross-system communication in the setting of goals and the carrying through of instruction. In the words of Gearheart and Litton (1979):.

With time and experience, and with careful attention given by agencies and organizations that work on behalf of handicapped people, this principle can be of great value to the interests of all handicapped individuals.  
(p. 14)

### Integration

Integration in society to the fullest extent of the individual's capability is a major part of the framework of the "least restrictive environment" and a major corollary of the principle of normalization (Schulman, 1980; Wolfensberger, 1972). Wolfensberger (1972) writes of two basic levels involved in the concept of integration: (1) physical and (2) social. He views physical integration as having to do with the basic security needs which are drawn from physical settings---living in a house in the community, attending classes in a regular school building, working in industrial or business areas, and taking an active part in regular leisure-time environments; and social integration as dealing with the respect and esteem that mentally retarded persons experience in the community that is determined by (a) program features, (b) labelling, both facilities and clients, and (c) the way in which the service building is perceived.

Nirje (1977) further elaborated on these levels, outlining four additional levels: (1) functional, (2) personal, (3) societal and (4) organizational. Functional integration was viewed as

using the necessary and ordinary segments of the environment such as gyms, school yards, restaurants and public transportation, along with the rest of the population; personal integration as pertaining to meeting the mentally retarded persons' need to be loved through personal interaction with parents, brothers and sisters, friends and marriage partners; societal integration as providing the opportunities for self-fulfillment, growth and achievement as a responsible and contributing citizen; and organizational integration as focusing on the proper balance between generic and special services.

Menolascino (1977) writes that programs and facilities for mentally retarded people should be physically and socially integrated into the community and that the population of such facilities should be such that the surrounding neighborhood can readily integrate them into its resources, programs, and community life. He further points out that integration of mentally retarded persons can best be attained if the location of services follows population density and distribution patterns. This suggests that services need to be dispersed across a single community as well as across communities, and underlines the need for a multiplicity of services and facilities.

#### Humanization

Humanization is the philosophy that emphasizes dignity of man; it is viewed by many writers as one of the guiding forces in the modern care and treatment of mentally retarded people (Cleland, 1978; Gearheart, 1980; Mahoney, 1975; Mesibov, 1976;



Wolfensberger, 1972).

Although there appears to be general consensus that the processes of normalization and humanization operate in conjunction with each other, some authors propose that humanization should be used as an alternative guideline to normalization to direct future efforts (Mahoney, 1975; Mesibov, 1976). One of the humanistic goals outlined by Mahoney (1975) appears to represent an appropriate starting point in developing alternative goals for mentally retarded people. He refers to it as cognitive ecology; it involves having positive feelings about oneself. It requires overcoming many early experiences because, in general, our society trains "our children to denigrate themselves, to belittle their accomplishments, and to fear their incompetence as human beings" (Mahoney, 1975, p. 867). Mahoney indicates that cognitive ecology is an appropriate alternative to normalization for several reasons: (1) It is a measurable goal---the criteria being the extent to which programs enhance the self-esteem of clients. (Self-esteem rating scales exist (Coopersmith, 1967; Piers and Harris, 1964) and more refined instruments are being developed (Lynch and Chaves, 1975); (2) The principle can be validated and, therefore, one need not discover the underlying assumptions to determine if they can be empirically validated; (3) The principle deals with individuals and not systems; (4) It represents a more enduring value structure than simply the desire to be normal, i.e. positive self-feelings are the desirable goal; and (5) the positive self feelings criterion does not deny the need that

most mentally retarded people have for additional assistance and is in no way incompatible with this need.

#### Self-Actualization

One particular motivation theory that is rather directly related to the issues of normalization and humanization is Maslow's (1954) self-actualization theory. All theorists adhering to a self-actualization viewpoint share a common conviction, namely that man is essentially good, they share an optimism relative to the potential for one's full self-actualization (Cleland, 1978). Man, according to Maslow, is motivated by an interrelated series of needs which are ordered into a pre-potent hierarchy as follows: (1) physiological, (2) safety, security, (3) love and belongingness, (4) esteem needs, and (5) self-actualization. He focuses on fully functioning, healthy human beings, as opposed to other theories that have arisen from a primary concern with deviance, a very important consideration for those concerned with humanizing and normalizing the environment for mentally retarded persons. Normality, for Maslow, is equivalent to self-fulfillment and it is clear from his writings that self-actualization is possible in anyone and that some of the characteristics of a self-actualized person are also observable in mentally retarded people (Cleland, 1978).

#### Individualization

Mesibov (1976) proposes another alternative to the

normalization principle which involves using measures of individual development to compare the relative effectiveness of several service systems and the development of the individual within the service system. There are a variety of techniques for evaluating service system effectiveness by assessing the development of the clients served, including tracing life histories of community placements (Dybwad, 1973), needs assessment (Browder, Ellis and Neal, 1974) and matched-control studies of institutionalized and deinstitutionalized placement (Hens and Schroeder, 1975). Although these measures of individual development place emphasis on the individual and the growth principle, the literature reveals that such a focus is not inconsistent with the normalization principle (Cleland, 1980; Gearheart and Litton, 1980; Schulman, 1980). Actually, the normalization principle is premised on personality and motivational theories which recognize and emphasize the individual and the growth principle (Sluyter and Cleland, 1972).

#### Developmental Theory

One particular theory that is also directly related to normalization, humanization and individualization of mentally retarded persons is Erikson's Eight Stages of Man (1963). The theory outlines a developmental approach, reflecting an extension of eight stages of development that carry into old age as follows: (1) Basic Trust versus Basic Mistrust, (2) Autonomy versus Shame and Doubt, (3) Initiative versus Guilt, (4) Industry versus Inferiority, (5) Identity versus

Role Confusion, (6) Intimacy versus Isolation, (7) Generativity versus Stagnation, and (8) Ego Integrity versus Despair. Each of these stages has its own positive goals as well as negative risks; it must be borne in mind that mentally retarded persons may, because of their intellectual deficit, remain relatively fixated at earlier stages of development. The theory emphasizes the need to examine the entire life-span of such people.

Although Maslow's and Erikson's theories were primarily designed for persons of normal intelligence and do not clear up the confusion centering around mental age and chronological age, they have provided, in broad outline, developmental stages that can be employed as yard sticks. Cleland (1978) further points out that in addressing the entire life cycle of the individual, one focuses beyond the here and now and addresses such crucial issues as the changing needs of mentally retarded people, their continuing adult education, and their training and employment needs.

Maria Montessori constructed a theory of child development based on careful analyses of the behavior of mentally retarded pupils and their normalization, humanization and individualization (Thomas, 1979). The theory focuses on the provision of suitable opportunities that will take the optimum advantage of development at a given period. She was convinced that the child by nature is intensely driven to explore and comprehend his world and to develop to his full potential. Although her theory as an educational and child-raising approach dealt with development in three major periods only up to the age of eighteen

(18), it has provided insight for post-school programming as well as educational programming, in its emphasis on the achievement of potential. Thomas (1979) points out that how well such potential will be attained depends on the quality of the environment, particularly the degree to which the environment provides (1) suitable opportunities for interaction with the physical and social world, and (2) freedom for the individual to follow his/her natural drives toward self-realization and service to society. Indeed, projections for the 1980's indicate that education will serve as a primary vehicle for normalizing the lives of handicapped citizens (Rosenberg and Tesolowski, 1980).

The preceding theories view the mentally retarded individual as a developing person. Such development does not have to be limited by negative expectancies, and there is sufficient evidence that mental and physical capacity are not permanently fixed (Du Rand and Neufeldt, 1975). All mentally retarded persons, regardless of the degree of retardation, are considered capable of some degree of growth and learning (Du Rand and Neufeldt, 1975; Johnson, 1980; Rosenberg and Tesolowski, 1980; Schulman, 1980; Stodden, Ianacone, and Lazor, 1979). The structure of the environment in which they live is considered to be of prime importance in influencing the rate and direction of development and behaviour change (Schulman, 1980). We need to develop services that will minimize the degree of handicap that the individual has, and provide the supports necessary to open up most, if not all, of life's options to

handicapped persons (Du Rand and Neufeldt, 1975). Developmental programming is not limited, therefore, to the early stages of life, but is applicable to all ages.

Menolascino (1977) writes that applying the developmental approach to mental retardation implies adoption of certain basic program principles or elements. The first element is the concept of change; since nothing alive remains static, professional consideration must be focused on factors, both within and outside the mentally retarded person, that can be combined to direct this change. The second element is sequential development, that is, human beings develop through life in a predictable sequence from the dependency of infancy, to the independency of adulthood, to the decreased competency of old age. The third element is development flexibility, that is, each individual is subject to varying stimuli from the environment that accounts for variance in the rate and particulars of one's development. As Menolascino points out, the interrelationships and interactions between inherited and environmental factors are crucial and the interface between them is the point at which professional endeavors on behalf of mentally retarded people can be most successful. He goes on to indicate that because the goal of the developmental approach is to provide effective coping devices for mentally retarded persons, interpersonal and physical environments and future developmentally oriented programs must focus on selected areas for accelerating, decelerating, or modifying both direction and rate of learning and behavior change.



The acceptance and use of the developmental model suggests that program effectiveness is determined by the degree to which their developmental goals are met, rather than by the conformity of the program to culturally normative patterns as prescribed by the principle of normalization. However, in those cases where non-normative techniques prove more effective than normative approaches in increasing development goals, the former would be preferable (Menolascino, 1977). Indeed, as indicated previously, the need to apply non-normative techniques with a given individual decreases with time. Bearing this in mind, the use of the developmental approach should produce programs and services that permit mentally retarded individuals to increasingly develop control over their environment, improve the complexity of their behavior, further develop interpersonal skills, and maximize their humanization in regards to the types of risk-taking behavior and decision-making which occur in the real world.

#### Summary

A variety of principles and theories are presently having an impact on the lives of mentally retarded people. Some of these principles and theories have had an influence on others and all of them are having some degree of influence on the development of vocational services and job opportunities for these people. Indeed, such current thinking has resulted in the development of a variety of services, approaches to services and service models---all of them recognizing career development

as a realistic goal for mentally retarded people.

#### (B) Career Development

Many writers have proposed and reported on the use of the developmental approach in programming for the career development of mentally retarded persons (Brolin, 1976; Brolin and Kokaska, 1979; Clarke, 1980; Cleland, 1978; Du Rand and Neufeldt, 1975; Johnson, 1980; Schulman, 1980). This approach seems to be further justifiable because of the delayed, disordered, or uneven development in learning skills and in the personal-social, educational and occupational growth of such individuals. The approach views career development as a developmental process---an aggregate of an individual's total development---cognitive, affective, and psychomotor, with deprivation in any aspect affecting human growth (Clarke, 1980). Career development connotes all aspects of individual development, with work as a central focus, leading to successful community living (Brolin and Gysbers, 1979; Weisenstein, 1977). Appell (1977) and Boyan (1978) emphasize the importance of a flexible developmental approach to career development, balancing both vocational training and training for independent living. Clarke (1980) further reports that although the focus of career development is placed upon occupational development and based upon adaptive skills, the degree of adaptability stems from academic skills, personal values, attitudes and habits, interpersonal relationships, occupational information, and the acquisition of skills for daily living, as well as for employment. Brolin (1973),

Brolin, Maleur and Matyas (1976) and Brolin and Thomas (1972) identified adaptability skills in three major categories as follows: (1) daily living skills, (2) personal-social skills, and (3) occupational guidance and preparation. Cobb (1972) and Brown (1974) pointed to the importance of programming for values, attitudes, habits and human relationships and concluded from the literature on adult adjustment of the mentally retarded that these human variables are of critical importance.

Career development is a more inclusive term than are either vocational preparation or training. For mentally retarded adults, it evolves from early intervention training efforts with the infant and incorporates education and exposure to various types of work opportunities (Schulman, 1980). Career development trains mentally retarded people to be "employable," and vocational skill training prepares them to be "placeable" (Du Rand and Neufeldt, 1975).

The range of options for self-determined activity and career development of any typical individual increases from infancy to adulthood. This career development continuum is illustrated below (Du Rand and Neufeldt, 1975).

## Career Development Continuum

Independence

-----OPTIONS-----

Job Placement

Special Technical Education

Career Selection  
Career ExplorationCareer Awareness  
Self Identity

Career Education

Family  
Expectations

Age Approximate

Birth (Total Dependency)

Figure 1

Du Rand and Neufeldt (1975) describe the lifelong process of career development as follows:

First, an individual must achieve some reasonably firm and realistic "identity of self," a self-identity that recognizes some understanding of one's own strengths and weaknesses.

Second, an individual must develop an awareness that family and society expect one to choose a career and, at some point in time, become self-sufficient as possible.

Third, the individual must learn to understand that work and life styles are closely related. One reality of society is that certain jobs pay more than others. At the same time, some kinds of jobs are more demanding than others, and so probably deserves higher pay. The individual needs to learn that his earning power is going to be related to his performance on the job, and that various kinds of jobs demand different kinds of performance under different conditions. (p. 5)

Leggett (1978) outlined several principles of career development as follows: (1) understanding and acceptance of self is important, (2) persons need to be recognized as having dignity and worth, (3) occupations exist for a purpose, (4) work means different things to different people, (5) education and work are interrelated and (6) individuals differ in interests, abilities, attitude and values. Although heredity is recognized as important, the development of adaptability skills is viewed by the author as being largely affected by the individual's environment and early experiences. With increasing experience and maturation, the individual develops a primitive set of abilities and needs which constitute the major components of his/her work personality.

#### Minnesota Theory of Work Adjustment

One of the most comprehensive approaches undertaken to

determine how one develops a work personality and makes occupational choices, the Minnesota Studies in Vocational Rehabilitation, began in 1957 and continued until 1972. These studies resulted in the formulation and refinement of the Minnesota Theory of Work Adjustment at the University of Minnesota by Dawis, Lofquist, and Weiss (1968). The widely accepted research-supported theory holds much promise for understanding the development of the work personality and the attainment of vocational adjustment by mentally retarded people (Brolin, 1976; Elo and Hendel, 1972; Huber, 1979). Based on the proposition that successful work adjustment depends on the congruence between an individual's work personality (the individual's abilities and needs) and his work environment (the required abilities from the job and the reinforcers that job provides), the theory indicates a major role for intervention programs such as work training and employment programs. Lofquist and Dawis (1975) define work as the interaction between individuals and their work environment, with the work environment setting certain behavioral requirements for the individual and the individual having certain expectations of the work environment. They view work adjustment as a continuous process by which the individual and the work environment meet each other's requirements: the individual performs satisfactorily, and the work environment is satisfying. The basic tenet is that each individual seeks to achieve and maintain correspondence with his work environment (Brolin, 1976). The degree of congruence between the needs and abilities (work personality) and the



rewards and demands (work environment) usually dictate the length of a person's tenure on a job (Vandergoot and Engelkes, 1977).

Beyond conceptualizing work adjustment and emphasizing vocational needs, reinforcers in work, and the worker outcome of satisfaction, the theory's most significant contribution is its focus on the work environment (as well as the individual) as an important contributor to one's vocational adjustment (Lofquist and Dawis, 1975). Brolin (1976) further points out that, based on the concepts of stimulus, response and reinforcement, the theory has been operationalized by testable hypotheses, researched relatively successfully and provides a systematic framework for operating vocational preparation programs. The importance of the early years is also stressed and four crucial periods are identified as being significant to the development of the mentally retarded person's work personality: Preschool (0-5 years), Elementary (6-12), Secondary (13-21) and Post-secondary (22 - retirement).

The Preschool stage, ages birth to five, is being recognized as a critical period in the development of the mentally retarded person's work personality (Schmalzried, 1971). Beyond the development of basic abilities during this period, the satisfaction of basic needs is also considered paramount (Maslow, 1954; Kiel, 1971). Development of prevocational skills during this period are extremely important, but generally missing in the thoughts of parents; thus the child has little or no orientation to the world of work (Brolin, 1976).

With regard to the second period, the Elementary School Stage which lasts from age six to twelve, it is now being recognized and accepted that while academic development is important, it is also important to focus attention on the development of abilities in daily living, personal-social and prevocational skill areas. Gysbers, Miller and Moore (1973) recommend that elementary school children be exposed to career development programs which focus on expanding their perceptual base in regards to self, work, leisure and career planning. Developing each mentally retarded student's manual skills, physical tolerances, work habits, motivations, and other attributes must be emphasized, since many of these people do not have the home environment which can provide the stimulation, motivation, experiences, and self-concept development, the educational system must fill this void if these students are to develop the fundamental skills necessary to cope with life's demands (Brolin, 1976).

The Secondary School Stage lasts from about age thirteen to twenty-one. During this stage the mentally retarded student begins to develop more specific interests about working, however, many will have unresolved problems, as well as underdeveloped skills which were not dealt with sufficiently in the previous periods and which must receive adequate attention before moving to the more advanced stages of career development (i.e. training, initial job experiences, occupational choices). Brolin (1976) believes that the focus of educational programming at the secondary level should be on occupational guidance and

preparation, daily living skills, and personal-social adjustment, with academic instruction as it relates to these areas.

The final stage, ages twenty-two to sixty-five, is usually marked by the mentally retarded person's becoming a client of a rehabilitation program or service if he desires to change or improve his occupational status. Although some may require such services, most may really need primarily the guidance and training opportunities. Brolin (1976) writes that because successful assimilation of mentally retarded persons into an occupational society depends upon a varied number of normal experiences, what most mentally retarded people may need is a series of career education services rather than rehabilitation services.

#### Career and Vocational Education

Besides the principle of normalization, the other important emerging thrust that holds promise for rejuvenating ineffective services to mentally retarded people is the career education movement (Brolin, 1976; Brolin and Kokaska, 1979; Green and Wing, 1980; Johnson, 1976; Johnson, 1980; Snider, 1978). As Brolin (1976) points out, there is no universally accepted definition or conceptualization of career education. Some believe that it is concerned with total man, i.e. his total life (Beane and Zachmanoglow, 1979; Becker, Widener, and Soforenko, 1979; Brolin and D'Alonzo, 1979; Hansen, 1977; Strodden, 1977; Super, 1976). Others believe that it is only part of education for life (Dittrich, 1975; Gysbers and Moore, 1971; Hoyt et al., 1972; McCurrin, 1973).

Brolin and Kokaska (1979) define career education as "the process of systematically coordinating all school, family, and community components together to facilitate each individual's potential for economic, social and personal fulfillment" (p. 102). The U.S. Office of Education's (1976) definition of career education is "the totality of experiences through which one learns about and prepares to engage in work as a part of living." D'Alonzo (1977) points out that the intent of career education is to serve as a catalyst towards the unification of educational and community systems around the central theme of work.

Phelps and Lutz (1977) further conceptualized career education by subdividing it into three widely recognized and accepted phases: (1) career awareness (primary and elementary school), (2) career exploration (junior high school) and (3) career preparation (senior high school, vocational schools, training centers, etc.) involving the community and the education system. Johnson (1980) and Lamkin (1980) elaborated on a fourth phase, career orientation (upper elementary school years), emphasizing that career education experiences should be integrated within regular education, special education, and vocational education. Such conceptualizations of the career education progression are consistent with the viewpoint of the Council for Exceptional Children (1978) whose position statement describes career education as

the totality of experiences through which one learns to live a meaningful satisfying work life ... providing the opportunity to learn, in the least restrictive environment possible, the academic, daily living, personal-social

and occupational knowledges and skills necessary for attaining their highest levels of economic, personal and social fulfillment. The individual can obtain this fulfillment through work (both paid and unpaid) and in a variety of other societal roles and personal life styles ... student, citizen, volunteer, family member and participant in meaningful leisure-time activities.

The CEC Position Paper goes on to list the following objectives of career education for exceptional individuals.

- to help exceptional students develop realistic self-concepts, with esteem for themselves and others, as a basis for career decisions.
- to provide exceptional students with appropriate career guidance, counseling and placement services utilizing counselors, teachers, parents, and community resource personnel.
- to provide the physical, psychological, and financial accommodation necessary to serve the career education needs of exceptional children.
- to infuse career education concepts throughout all subject matter (in the curricula of exceptional children in all educational settings from early childhood through post-secondary.
- to provide the student with the opportunity to leave school with entry level saleable skills.
- to provide career awareness experiences which aim to acquaint the individual with a broad view of the nature of the world of work, including both unpaid and paid work.
- to provide career exploration experiences which help

individuals to consider occupations which coincide with their interests and aptitudes.

- to provide exceptional individual programs with occupational preparation opportunities for a continuum of occupational choices covering the widest possible range of opportunities.
- to help insure successful career adjustment of exceptional students through collaborative efforts of school and community.

Career education is viewed as an integration of learning and knowledge, as opposed to knowledge gleaned in bits and pieces, with consideration being given to the total person at each level of development and instruction. Clarke (1980) outlines a number of considerations in the development of career education as follows:

- career education is for all persons and is a focus on the total person; whether handicapped or not, full consideration must be given to the combined attributes of the individual.
- one's career is a developmental process, and is subject to planning, programming, and change.
- the nature of our society demands that career education consider a variety of work values, rather than a single work ethic.
- career education is concerned with protecting each developing person's freedom to make choices and



decisions, while it assists him/her to learn what the alternatives are.

- significant deprivation in any aspect of human growth can affect career development.
- there are many historical and current limitations imposed by society upon the career development of the handicapped.
- any person choosing to participate as a producer or consumer in today's complex and rapidly changing world must possess skills in adaptability.
- career education for mentally handicapped individuals differs significantly enough from that of the non-handicapped that some special attention to programming should be given.
- there is need for differential programming among the various disability groups.
- programming should be initiated at least as early as kindergarten.
- a democratic philosophy of education and a realistic philosophy of normalization do not dictate that all children have the same curriculum (p. 9).

Beane and Zachmanoglow (1979) further indicated how career education can help all individuals from the viewpoint of a psycho-social foundation as follows:

- career education assists individuals in becoming aware of the relationship between their maturity and their

evolving aspirations, values and potentialities.

- career education assists individuals in developing a sense of worth, purpose, and direction in life.
- career education assists the individual in becoming a part of rather than apart from society (direct application of the normalization principle).
- career education provides the individual with the security of legitimation in relation to the norms of achieving adult status.
- career education enables individuals to become fully capacitated to perform all of life's roles more effectively (p. 45).

Career education as a mechanism to increase the life choices of the mentally retarded individual appears to be viable within the traditional school setting only with changes which will effect the delivery of services (Stodden, 1977). Stodden, (1977) suggested (1) appropriate integration of mentally retarded students into regular programmatic service with needed inter-disciplinary support service, (2) a more realistic "to life" learning environment which provides relevant experiences necessary for the growth of personal, social, and work values, (3) increased coordination between the school and community (business, agency, industry), (4) increased emphasis upon the skills and knowledge needed to function successfully in the real world, and (5) a systematic procedure for implementing a career education program while

still achieving other expected educational outcomes. Brolin and Kokaska (1979) further recommended changes as follows:

(1) the total curriculum needs to be sequenced definitively and logically from elementary through post-secondary levels requiring school personnel from the various levels to combine and coordinate their efforts, (2) there must be a shift from the traditional content-based curriculum to one that is more process-based (the development of skills rather than knowledge and information must be emphasized), (3) some mentally retarded students must be permitted to go beyond the traditional period (eighteen years of age) until they acquire the necessary competency level for career success, (4) new methods of realistically providing career-relevant experiences and content within a career education context in both regular and special education classrooms need to be identified and infused, and (5) traditional teacher and counselor roles need to be changed. Boyan (1978) also pointed out that the successful career development of mentally retarded people requires (1) stressing career awareness, exploration, and skill development activities at all levels and ages, (2) placing greater emphasis on hands-on experiences and development of physical and manual skills, (3) personalizing the educational program within a democratic rather than autocratic atmosphere, and (4) assuming responsibility for every individual's life career development, even after leaving the school environment.

There is a long history of literature in special education which relates to the concepts of career development and career

education (Leggett 1978). Special education involved with the education and training of mentally retarded persons has perceived the career education movement as a major breakthrough in education which has positive ramifications in the education of such individuals (D'Alonzo, 1977). This development, as viewed in the special education literature, occurred along a continuum of self-awareness, awareness of others, and career awareness (Kolstoe, 1976). Special education has been, by definition, committed to the development of the "whole child" and it has been basic to special education programming to provide experiences and opportunities that allow for the special students to become aware of their own interests, aptitudes and capabilities and to help them adjust to the community at the adult level as social participants and wage earners.

Leggett (1978) points out that a review of the elements and goals of career education and the corresponding elements and goals of special education reveals great similarities. Since mentally retarded persons often need longer periods of intensive teaching, career concepts can be used to maintain a continuity to a curriculum that extends from early childhood through the adult years, as well as to enhance the attainment of such special education goals as normalization and integration at all levels of community and school life (Kokaska and Kolstoe, 1977). The goals of special education must include maximum emphasis upon training for satisfactory work adjustment (Merachnik, 1972).

A most relevant and significant development in vocational

services for special education programs during the last decade has been the initiation of work experience programs. Johnson (1980) points out that studies have demonstrated the efficacy of special work-study programs as opposed to other more academically oriented special education programs. In this approach, students spend part of the day or week acquiring work experience and job skills in school and community work stations, while special educators and program coordinators also attempt to provide for needs for such people while in school. Thompson and Wimmer (1976) have identified five primary components of the work experience sequence: (a) prevocational experience; (b) job analyses; (c) in-school work experiences; (d) community placement; and (e) after graduation placement and follow-up. Programs which have demonstrated positive results are described by Brolin (1976), Chaffin et al., (1971), Halpern (1972), and Marinoble (1980). However, Brolin (1976) also indicates that many of the work experience programs are only minimally effective and are often restrictive (e.g. too few job sites are used, training is often poor, and the student graduates to routine, repetitive, low-paying jobs and consequent under- or unemployment). He further indicates that there is a definite need to identify, develop, and disseminate appropriate training materials and information to the various school personnel, so that they can better meet the instructional needs of mentally retarded students.

Cegelka (1977) writes that educational programming for such individuals should be flexible enough to provide a variety

of work adjustment activities to meet the objectives outlined in each student's individualized plan. Johnson (1980) further points out that such flexibility should be encouraged and should specifically allow for the open entry/open exit concept. Lombard (1978) reports on a program specifically designed for trainable mentally retarded students in which the daily classroom environment was made relevant to the role and responsibilities of a working person; it was highly successful in teaching vocational orientation to such students. Gibson and Lazor (1977) also report on a very successful program, through the unified effort of the school and the community, that began with the elementary program and culminates with continued employment after graduation. Richter-Stein and Stodden (1981) elaborated on a program using simulated job sample activities to promote vocation exploration and vocational evaluation. The program was successfully integrated into academic classroom settings.

Vocational education also occupies a strategic position in the career development of mentally retarded individuals and is considered to be a critical component of adult adjustment (Cook and Engleman, 1978; Hawkins-Shepard, 1978; May, Armentrout, Ruby and Clayton, 1978; Meers and Conaway, 1977; Weisenstein, 1977). Cegelka, in an interview with Hawkins-Shepard (1978), points out that vocational education can be one component of career education. Meers and Conaway (1977) further indicate that the terms career education and vocational education are not synonymous, but are complementary and compatible. They state:



Career education is for every student. Vocational education is for every student desiring to learn a saleable skill and who can profit from this kind of learning experience. Mentally retarded youth can profit from vocational education if provided the opportunity. The vocational teachers' role is to provide the learning experiences so that self-direction and job fulfillment through gainful employment are within their grasp.

The American Vocational Association (1971) has defined vocational education as "education designed to develop skills, abilities, understandings, attitudes, work habits, and appreciations needed by the worker to enter and make progress in employment on a useful and productive basis." Finch and Sheppard (1975) outlined the basic characteristics of vocational education as follows:

- preparing for jobs requiring less than a baccalaureate degree;
- activities and experiences through which one learns to assume a primary work role;
- an emphasis on skill development or specific job preparation;
- a focus of attention at the upper-middle grades, senior high, and post-school level;
- a physical entity or program rather than an educational philosophy, with the major goal of gainful employment.

Stated in its simplest form, vocational education's role in career education for mentally retarded persons is to provide experiences whereby such people are trained for gainful

employment (Meers and Conaway, 1977).

In considering career education and vocational education, one state plan (Arkansas State Plan, 1976) states:

Because of the critical importance of career and vocational education for children with handicapping conditions, career awareness, orientation, and exploration activities should be an interwoven part of the curriculum for handicapped children. Such career education should begin at the primary level. A thorough evaluation of the needs, capabilities and preferences of the handicapped student relative to vocational preparation is to be made before the student commences a vocational or pre-vocational education program. An individual vocational preparation plan should be developed, jointly with the student, as an outcome of this evaluation; and the plan should be subject to change, as appropriate. The handicapped student should participate in choosing the vocational preparation and should be assisted in the process. Handicapped students should participate in pre-vocational programs and/or vocational preparation programs at a lower age (age 13-16), if appropriate in meeting their individual needs.

Vocational Education programs and vocational-technical schools should be adjusted to accommodate students with handicapping conditions and supported to accommodate their special needs. Specialized vocational education programs should be developed to assist handicapped students in learning occupational skills. Job counseling and placement services should be available for all handicapped students who are participating or have participated in vocational education programs. Periodic planning sessions should be held on a regular basis at the state and local levels in order to coordinate vocational services offered to handicapped students by special education, vocational education and rehabilitation services.

A number of sources have recommended that vocational schools should modify their programs and admission requirements to accommodate mentally retarded people (Brolin, 1976; Closer Watch, 1978; Du Rand and Neufeldt, 1975). Other studies have indicated that there is a great need to change vocational school teachers attitudes toward mentally retarded people (Greenan &

Phelps, 1982; McDaniel, 1982). Clearly, what is needed are cooperative efforts between the areas of vocational and special education and some method of structuring these efforts so that each of these disciplines can help develop the mentally retarded students' career potential (Sitlington, 1981). Gallagher (1969) and Johnson (1979) pointed out that if career development is to become a reality for mentally retarded people there must be a marriage of special education, vocational education and vocational rehabilitation services.

#### Vocational Training and Services

Advances in the area of training began to occur with the work of Clarke and Hermelin (1955) and O'Connor and Tizard (1956). These studies demonstrated that trainable mentally retarded persons could carry out complex assembly tasks and that although initial performance was slow and involved many errors, the final performance was as good as the 'normal' industrial worker. Since that time, a large number of further studies have been conducted and it is now recognized that the level of performance obtained is a function of the opportunities and training provided, and that the application of basic procedures of training and instruction can produce large gains in behavior and adjustment (Angel, 1969; Bellamy, 1976; Birenbaum and Re, 1979; Brolin, 1972; Cuvo, Leaf and Borakove, 1978; Edgerton, and Bercovice, 1976; Hill, Wehman and Pentecost, 1980; Jackson, 1977; Olshansky, 1970; Richardson, 1978; Schalock and Harper, 1978; Schutz, Jostes, Rusch and Lamson, 1980). Gold (1975) and

Whelan (1977) have demonstrated that, with training, a large number of trainable mentally retarded people can be employed in much more complex jobs, contrary to the predictive judgements of their vocational supervisors. Greenleigh Associates (1975) have shown that such training makes a tremendous difference in determining who gains competitive employment and who does not. Job readiness training has also been shown by others to have a positive effect on individuals' abilities to obtain and maintain jobs (Azrin, Flores, and Kaplan, 1975; McClure, 1972; Tesolowski and Haplan, 1979). More positive attitudes toward the world of work have also been observed in people who participate in the job readiness training process (Currie, 1974; Tesolowski, 1978; Tesolowski and Halpin, 1978).

Brown (1977) suggests that, until recently, the results of these studies have not been applied to sheltered workshops and other vocational training centers. Mittler (1977) points out that it is important that the front line staff apply the information obtained through research to training programs for mentally retarded persons. He states "research is not a luxury or a sideline, but an integral part of service delivery. Used properly, it helps us to translate general concepts such as accountability and evaluation into measurable goals" (Mittler, 1977).

In reviewing the vocational research with mentally retarded persons, Gold (1973) pointed out that traditionally the focus has been placed on prediction and evaluation rather than training, i.e. Cobb, 1972; Elkin, 1968. Although there continues to be some

focus placed on this, i.e. Palmer, 1974, increasing emphasis is being placed on research in the development and refinement of vocational skills (Whitman and Scibak, 1979). Gearheart and Litton (1980), Menolascino (1977) and Morgenstern and Michel-Smith (1973) recommended continued study and research into a model system of education and vocational habilitation for mentally retarded persons. Brewer, Miller and Ray (1975) and Tesolowski and Halpin (1979) identified a need for further research concerning the effects of job-readiness training on individuals' work personalities and attitudes toward employment. Brolin and Kokaska (1979) reported that a national conference of special and vocational educators, rehabilitation workers, and researchers identified (1) development of better articulation among all agents involved in services for the handicapped and (2) retention techniques for job-seeking readiness, maintenance and mobility skills as two of the several areas that should receive top priority research.

Several researchers/writers have identified other limitations of the vocational training literature regarding mentally retarded persons. Bellamy, Horner and Inman (1979) pointed out that despite the accumulation of procedural information concerning the vocational habilitation of mentally retarded persons, an empirical basis is not yet available for defining a comprehensive set of habilitation techniques. As Schutz, Jostes, Rusch and Lamson (1980) indicate, this lack of an empirical basis further reflects the paucity of research studies that have programmed for maintenance and generalization of behavior

change as components of overall vocational training packages. Behavior change resulting from training procedures that are not part of the environment are not likely to maintain themselves when the procedures are withdrawn. Unless efforts are made to program for such maintenance and generalization, long term behavior changes are not likely to occur (Stokes and Baer, 1977).

Prior vocational research concerning skills training has focused primarily upon the efficacy of prompting responses or shaping (Bellamy, Inman and Schwarz, 1978). However, this research has been conducted predominantly within the sheltered workshop environment, emphasizing the need for continued refinement and elaboration of alternative techniques and programs for task-acquisition training in other environments.

Another limitation of the vocational training literature and research is its lack of involvement of the potential employers. Rusch (1979) argued that an immediate concern of researchers should be validation of training efforts within the framework of employers' expectations. Central to this issue is the agreement and understanding by potential employers on the relevance of training goals, procedures, and/or obtained results (Kazdin, 1977; Wolf, 1978).

As the previous research studies have indicated, in the past two decades much of the vocational habilitation research has focused on the trainability of mentally retarded persons, the necessary components of training programs, and their employment capabilities. Many researchers have studied training methods and have demonstrated the importance of



employing certain techniques and teaching strategies in vocational habilitation programs. Faulkner (1979) emphasizes that training programs must be structured carefully, and take into consideration basic learning principles in order to meet the individual's needs. She further emphasizes the responsibility of all service providers for continued application of the research to practice approach in this field with a positive attitude toward the habilitation of mentally retarded people in the community.

The prognosis "once retarded, always retarded," which inevitably led to rejection and often institutionalization, no longer holds true (Douglass, 1974). Now there is hope and the expectation that many mentally retarded persons can adjust to the worlds of education, employment, and civic responsibility and can experience human dignity. Recent years have witnessed a changing focus from one of deviance to one of competence (Steinman and Traunstein, 1977), and from abnormal behavior to normal behavior (Mehr, 1980; Olshansky, 1972; Schulman, 1980; Siegel, 1975). Olshansky (1972) writes that in the past those who provided leadership and service were guided frequently by clinical theories which focus their attention on the abnormal, rather than the normal:

Finding what they are looking for, they find so much abnormality in the client as to limit their effectiveness in improving his/her behavior, as well as to justify their own ineffectiveness. While they see failures all around them, they attribute these failures to lack of time to practise their skills, lack of manpower, or to the persistent pathology of the persons helped. They are still convinced that to build a better

future for a client they have to reconstruct his past. Given their biases, they have tended to disregard the experience of the people they serve. They have functioned as archeologists (Olshansky, 1972, p. 163).

However, the focus is increasingly changing from pre-occupation with the past to the experiencing and the many interconnections of the present. As indicated previously the institutional model for the delivery of services to mentally retarded people has essentially been replaced by a developmental model built upon principles such as normalization and the least restrictive environment (Rosenberg and Tesolowski, 1980). Education and the developmental model have provided the impetus for maximizing handicapped individuals' growth and vocational potential and permitted their full participation within the mainstream of society, with such integrated living viewed as positive interaction.

The mentally retarded person's vocational potential not only is determined by his/her inherent resources, but also is affected by the kinds of opportunities he has to develop these resources, that is, to acquire the skills necessary for employment. These opportunities can be thought of as services (Heath, 1975). The traditional approach to the rehabilitational/habilitational of mentally retarded people has been to provide work adjustment and other training through one service - the sheltered workshop. Soloyanis (1978) points out that this one service sheltered workshop model may, in fact, do a disservice to many mentally retarded people and urges the development of complete systems for exploiting the potential of such people

and keeping the sheltered workshop as one tool in this entire system. Brown and Clarke (1981) stress that (1) such individuals should be provided with programmes and services in their area of need, and (2) these individuals should be provided with a range of training which involves social, educational, home living, and leisure time training. Work as a road to normalization dictates that the more the available opportunities for experience approach the normal, the more the capacity for normal behavior can be actualized.

Magrab and Elder (1979) point out that vocational options should be as diverse as residential service options to include (1) sheltered workshops, (2) evaluation and training programs, (3) transitional employment on on-the-job training, (4) sheltered enclaves or "workshops without walls", and (5) gainful employment, and that these options should be supported by educational and recreational opportunities.

Bradley and Warrenfeltz (1981) focus on one alternate option to the sheltered workshop and propose the use of a new concept, the job module. They define the job module as a work task with high point-to-point correspondence to local business and industrial tasks, which, in turn, is utilized in training, curriculum development, and subcontract procurement in work activity centers.

Jacobs (1978) reports on the initial development of an alternate model for sheltered work activities for mentally retarded people in rural areas, where contract work is less readily available because of a paucity of industry. He states

that farm related activities have proven to be a source of employment for which the mentally retarded adult is suited and in which there is considerable economic potential. He further indicates that the proposed model can be implemented at substantial savings over traditional approaches and more importantly, a broad range of humanitarian ends are served indirectly.

Harshman (1978) points out that a sheltered industry should offer some important and distinct advantages to mentally retarded people over and above the benefits conferred by the average sheltered workshop. Rentz (1978) indicates that sheltered industry is different from sheltered employment noting that sheltered employment can occur in virtually any location where persons work for remuneration. He states:

The criteria which identify or define a sheltered industry include the following jobs that are available exclusively to handicapped people; an industry or business that is part of the regular stream of economic activity; the level of productivity of handicapped employees is comparable to the productive capacities of non-handicapped employees; handicapped workers are significantly improving their employability in the open job market; the goal is to move the handicapped person directly into competitive industry; work site modifications may be required for a specific employee; wage rates may be below the going rate for that type of work; and finally, while sheltered industries operate in the private sector, government departments (federal and provincial) may play a variety of supportive roles.

Harshman (1978) further points out that sheltered workshops are client centered, whereas sheltered industries concentrate on surviving as a business enterprise; also, the sheltered industry work force may be a mixture of handicapped and non-handicapped

workers.

Participants in a Symposium co-sponsored by the Canadian Council of Rehabilitation Workshops and the National Institute on Mental Retardation (March, 1977) further emphasized the use of a business/industrial model in the provision of vocational services for mentally retarded people. They recommended the following:

- work context and practices more in keeping with those found in business;
- work options consistent with the regular work world;
- use of available technology to increase productivity;
- context of personal and social skills training should move out of the workshop to other community centres; and
- manpower optimally would be a mixture of handicapped and non-handicapped workers.

It was also pointed out that new sources of funding were available if vocational services are operated under the business/industrial model (e.g. Department of Industry, DREE, LEAP, with the use of Department of Social Service funds at the same time).

Hill, Wehman and Kochany (1979) write of the successful development of a community based pre-employment program for trainable mentally retarded adults that focuses primarily on job preparation, training and placement, with a secondary emphasis on functional independent living skills. They outline a continuum of services within a center-based program from most

restrictive (sheltered workshop preparation) to least restrictive (competitive employment preparation) as follows: (1) industrial unit (simulated workshop tasks and contract work), (2) skill acquisition unit (development of isolated component skills, (3) pre-employment unit (development of full skill sequences and practice job opportunities and (4) job placement, on-the-job training and follow-up services.

~~Sigler and Kokaska~~ (1971) focused on the job placement of mentally retarded individuals and elaborated techniques and elements that constitute successful job placement. Acton (1981) identified four criteria for suitable employment for such individuals as follows: (1) a meaningful income from work, (2) an occupation that is perceived as being productive, (3) a work situation that fosters normal social relations and integration and (4) tasks that require a continuous pattern of responsibility and discipline.

Mithaugh, Hagmeier, and Haring (1977) present a trainer-advocacy approach to job site training and placement of trainable mentally retarded people in competitive employment. Rusch and Mithaug (1980), Schalock and Harper (1978), Sowers Thompson and Connais (1979), have presented similar models that emphasize that vocational training is insufficient without appropriate placement, follow-up and postemployment counseling services (Mithaug and Haring, 1976). Such a model delineates the conceptual sequence of activities through which a handicapped individual is moved from initial assessment until final placement and employment. Wehman and Hill (1981) also report of the successful use of the model stating that the key to the



model appears to be the development of assistance for the client during the initial stages of job placement and the systematic fading of this assistance as success is documented. They further indicate that the network of assistance must be in two forms: (1) advocacy for the client with co-workers, supervisors and administrators who have minimal exposure to mentally retarded people, and (2) behavior training. Crosson (1969) and Rusch and Mithaug (1980) recommend such a behavior analytic approach to training that takes into account the interactions between human behavior and the environment and focuses upon the training and management of skills and behaviors that are essential for survival in a community setting. The characteristics of such an approach being: (1) replicable training and management procedures (2) individualized training, (3) direct observation and measurement, (4) repeated assessments, (5) objective analysis including quantification, (6) acquisition, maintenance, and transfer, (7) social and vocational survival skills, and (8) social acceptability (Rusch and Mithaug, 1980).

Dunn (1974) has identified three primary approaches to vocational adjustment: (1) verbal, including individual and group counseling and instruction, (2) situational providing experiential opportunities and including the use of production work in a sheltered environment, community job sites assignments and behavior modification techniques, and (3) environmental manipulation, involving the elimination of job-site barriers and the use of prosthetics for maximizing the efficiency of persons.

Hansell (1976), Hoff (1978) and McGee (1974) stress the necessity of allowing the client to remain as self-sufficient as possible and not become dependent on interventions. They refer to this approach as a crisis intervention model with the goal being to support and strengthen so that clients are more successful in expressing and coping with their own problems; it is not to reconstruct/construct the client into the agents' image.

Hoff (1978) contrasts the crisis intervention model with the social-rehabilitation model. She states that the goal of the social-rehabilitation approach is to return and develop chronically developmentally disabled people to normal functioning in a normal society as much as possible, whereas the goal of the crisis-intervention approach is to move individuals toward personal and social integration. She points out that the social-rehabilitation approach assumes failure in that "as much as possible" implies it will never be complete, and it also assumes that the parameters of normal can be clearly defined.

Cohen and Kligler (1980) proposed a partnership model that was based on crisis intervention practices and defines the client as an individual in the context of his network of support within the community. They view the primary intent of the partnership model as being to change the institutional, paternalistic helping relationship to one consistent with life in a community and with the community forming the foundation of a service delivery system. The task of community-based services is not only to provide easily accessible services, but also to

reconceptualize developmentally disabled individuals and their futures (Rhodes, 1977)..

Conceptually, there has been a growing awareness of the fact that intervention with mentally retarded people, if it is to be effective, must consider the individual's total social and physical environment (Hogg and Mittler, 1980). There is evidence to suggest that "planned intervention" can result in an acceleration of the total rehabilitation/habilitation process (Clarke and Clarke, 1975) and the challenge is to refine this as a technique without losing sight of the necessary human elements involved (Esgrow, 1978).

Joslin (1978) believes that vocational service agencies cannot be all things to all people because the present level of funding for vocational programs does not allow for providing all these services, vocational agencies do not have the time or expertise to provide all these services (other agencies should have the expertise and also the mandate to provide them), and that the more services you provide, the more the community will sit back and allow you to provide them, instead of developing its generic services to include trainable mentally retarded people. He goes on to indicate that although vocational services can't be all things to all people, increased emphasis should be placed on the following:

- placing normal vocational expectations and demands on trainees;
- being accountable for vocational success of trainees;
- searching out trainees' competencies instead of

deficiencies;

- changing and up-dating our methods of achieving goals;
- holding other agencies accountable for the role they play in a person's rehabilitation;
- not allowing vocational programs to be dumping ground for agencies which want to get rid of people;
- setting the same standards for the provision of services that are used by other health, education and social service agencies which provide services to the public;
- bringing the unmet needs of trainees to the attention of the community;
- knowing what vocational agencies are legally constituted and funded to provide; and
- being prepared and committed to improve programs, to introduce new programs, to develop a full continuum of vocational services that will assist our trainees to live in the community with dignity. (p. 13)

#### Systems Model of Service Delivery

At the present time rehabilitation and habilitation service delivery uses a model in which clients must fit what is available, which often means enrollment programs that are not capable of meeting their special need, or go without programs at all (Bernstein and Karan, 1979). Beyond recommending the expansion and modification of conventional services to mentally retarded people, a number of authors have recommended increased

coordination and accountability among service providers (Bernstein and Karan, 1979; Conley, 1976; Gettings, 1977; Ingalls, 1978; Magrab and Elder, 1979; Ross, 1980; Siegel, 1975; Weisgerber, 1980; Young, 1982). There has also been considerable interest in recent years, particularly by funding agencies, in the integration of service and service delivery (Bitter, 1979). Faulkner (1979) emphasizes that the training for any developmentally handicapped adult involves the application of integrated programs and services.

It is rationalized that existing resources can benefit more people, treat the individual as a whole person, and be more responsive to the needs of individuals and communities if services are integrated. Further to this, many authors have pointed out that to adequately serve mentally retarded people, the conventional methods of delivering services must be altered (Grantham, 1976; Kokaska and Kolstoe, 1977; Riggan, 1979; Schulman, 1980). Others emphasize that continued research may delineate the best and most effective methods for a balanced approach to career development and the delivery of services (Boyan, 1978; Lofquist and Dawis, 1975; Rosen, Clark and Kivitz, 1977).

Magrab and Elder (1979) believe that the service delivery system for handicapped people is really a series of fragmented service delivery systems in the areas of community and social services, education, vocational rehabilitation and health delivery. A number of contributing factors are cited as follows: (1) overlapping legislation at the federal level,

(2) multiple funding sources that exist for the provision of services, (3) multiple planning bodies with little coordination and (4) the existence of different models of service delivery, e.g. medical model, education model, and social services model.

They conclude that each of these service delivery systems has a role in providing services to handicapped persons and that all models can and should work harmoniously together (Magrab and Elder, 1979).

A number of authors have advocated the creation of a wide range of comprehensive services for independent living (Bernstein, 1979; Faulkner, 1979; Grantham, 1976; Karan, Wehman, Renzaglia, & Schutz, 1976; Katz, 1974; Kokaska, 1979; Riggan, 1979; Stahlecker, 1967). Grantham (1976) postulated the following activities as representing such a range:

1. Linkage services
2. Medical evaluation
3. Psycho-social evaluation and support
4. Residential living facilities
5. Multipurpose vocational evaluation and training programs
6. Educational opportunities
7. Placement and follow-through services
8. Transportation services
9. Research and self-evaluation
10. Consultation and education

He states that no one service has pre-eminence over any other, that there may be other special elements needed and that once



a community has these elements in place it is well on the way to developing comprehensive services.

Appell (1977), Chinn, Drew and Logan (1979), Clarke and White (1980), Du Rand and Du Rand (1978), Du Rand and Neufeldt (1975), Schulman (1980) and others propose the use of a systems approach model to service delivery which includes all of the service delivery areas. Schulman (1980) states that each person lives within a system of human and other environmental interactions and interdependence, with the organization of the system being affected by the number of parts or elements involved and the relationship between and properties of these elements. Use of systems models allow (1) definition of human service boundaries, (2) identification of various system components, (3) identification of system component functions, and (4) identification of the relations between various components (Budde, 1979). Budde further indicates systems models are used in two major ways: to model the existing service system and to model the ideally improved system. He states:

In modeling an existing service system, that which exists within the system is identified and synthesized as a model. That kind of modeling leads logically to the second kind of ideal modeling, the improved or ideal model is then used as the basis for improvements to the existing service system. In human services, the process of defining components and designing models is largely a continuous one and one that must involve personnel at various levels. In essence, a model becomes a plan that encompasses direction and criteria for action. Subordinates involved in model development must also be involved in the model implementation process. Not only do they possess a real working knowledge of the model's respective components; they also will ultimately be given the responsibility to mold and shape the real world for which they are responsible so that it conforms to the ideal model. (p. 71)

Budde also points out that two general approaches are used to define the service system, analytic and synthetic. When the system is defined with an analytic approach, the overall system is defined and, through the analysis, reduced to detailed components. When the system is defined with the synthetic approach, detailed components of the system are defined and synthesized into the overall system. Both approaches are typically used throughout the definition process, often concurrently.

Gass and Sisson (1975) point out that the ideal model has two aspects or parts related to planning and service development. The first part represents the real world and allows the prediction of how that world might unfold and the second part then selects from the feasible range of controllable variables the particular ones that give the most desirable results. They state that the two parts are not always clearly separate, that some models accomplish both (optimizing models) and that other models contain only the predictive process (predictive models).

The essence of a systems model for community services is to establish a closer working relationship among existing agencies serving mentally retarded people and to create an effective instrumentality for improved planning, development and coordination of services to such people (Mooring and Currie, 1974). A number of writers have called for such improved co-operation and co-ordination of community resources and resource people (Ashby & Bensberg, 1982; Baxter, 1982; Chinn, Drew,

& Logan, 1979; Cook, 1979; Compton, 1981; Gall, 1981; Gingras, 1981; Green & Wing, 1980; Johnson, 1979; Johnson, 1980; Mortinson, 1982). Perhaps the most serious challenge we face is in the development of new spirits of cooperation, trust and communication (Gall, 1981).

#### A Comprehensive Vocational Services System

Du Rand and Neufeldt (1975) use the systems model approach to outline the kinds of vocational service systems needed to give mentally retarded persons a reasonable opportunity for growth experience, leading to productive and meaningful career development. They consider such a system to be a sub-system of the larger comprehensive human service system:

A necessary condition for the successful operation of a comprehensive vocational service system is that it must operate in conjunction with a community based residential service system; a progressive and developmentally oriented educational development service network involving elementary and secondary schools, and technical and vocational training school, and family and central support service systems to provide counselling and guidance, recreational supports and citizen advocacy services. The interrelationships of all these service sub-systems form a comprehensive whole. (p. 9)

Their system describes a number of special support services that are very often needed by mentally retarded people before they are able to work. They identify two main goals of a comprehensive vocational service system: (1) to provide every mentally retarded individual a reasonably normal expectation that he will have the opportunity to make a career choice; and (2) to promote positive developmental opportunities

so that each individual can exercise his right of career choice and so participate in meaningful and self-enhancing work during the normal adult working life-span (Du Rand and Neufeldt, 1975). If these goals realistically are to be achieved, they believe that attention needs to be paid to elaborating and developing current services and supportive activities, such as parent-support programs, improved educational curriculum in normal educational facilities, skill and work adjustment training, personal adjustment opportunities, and a broad range of employment options as indicated previously.

Du Rand and Neufeldt state that for a comprehensive vocational service system to function effectively, separate program components need to be developed for each kind of problem experienced by mentally retarded persons. They suggest eleven major components:

1. Trainee Recruitment

- refers to the way in which potential trainees come to know about the vocational service system and are placed in contact with it (self-referrals, service agency referrals and community agency referrals);

2. The Selection Process

- refers to what happens once that person gets there and how decisions are made in the way services are assigned ("administrative edict" and needs-based selection);

### 3. Pre-Vocational Training

- refers to a variety of learning experiences that prepare one for coping with work (home training, career education in integrated school settings, school-community rehabilitation agency vocational program co-op, developmental centres and work-training centres);

### 4. Vocational Exploration

- refers to a varied number of experiences that develop an awareness about available career opportunities emphasizing the following principles:

(a) work experience must serve as a base for an informed choice of careers, (b) work experience must be "hands-on", (c) work experience must take place in a realistic setting, (d) work experience must allow the individual to evaluate his own potential and performance in a possible career, (5) work experience must lead to vocational choice;

### 5. Vocational Skill Training

- refers to the teaching of skills to individuals, skills that can be marketed and hence increase the employability of an individual (skill training, work-adjustment training and personal-adjustment training).

The training must reflect a number of principles:

(1) such training must reflect the current or future job market in the community, (2) skill training must be conducted by a competent individual, (3) skill training must take place in a realistic setting, and

(4) skill training must teach specialized skills. A number of training site options are also considered viable as follows: (1) apprenticeship programs, (2) training on the job, (3) industrial training stations, (4) vocational schools, (5) national manpower and training programs, and finally (6) various vocational rehabilitation resource agencies should be up-graded and refined as to more effectively provide the kinds of vocational skill training required by business and industry.

#### 6. Work Adjustment Training

- refers to training concerned with developing a number of work related skills that are required in any work situation. The objectives may be stated in the following principles: (1) an individual must know how to work, (2) an individual must know how to accept supervision, (3) an individual must know how to get along with co-workers on the job, (4) an individual must be ready to allow himself to be paced by a machine or co-workers, (5) an individual must have a planned approach to work, (6) an individual must be committed to closure and excellence, and (7) an individual must know how to kill time.

#### 7. Personal Adjustment Training

- refers to the need to teach trainees a number of social skills that are more directly related to their own personal life than to on-the-job experiences



(grooming and self-care, using public transportation, acceptable public behavior, communication abilities, and other social skills).

8. Vocational Evaluation-Feasibility Determination

- refers to an approach to vocational evaluations that can be realistically carried out in work settings, traditional school systems, vocational service systems and in industry.

9. Job Placement

- refers to the pairing of a job and its particular requirements with an individual who has the skills that will enable him to match the requirements of the job.

10. Job Stabilization

- refers to the process of making available to that person, on a continuing basis, the supports needed to guarantee success on the job.

11. Retraining

- refers to the creation of retraining opportunities to increase the satisfaction of employee and employer alike.

Integrated into the career development process is the employment continuum that is developmental and based on the ideologies of normalization and individuation, with the effectiveness of the continuum depending on proper assessment, training, monitoring and appropriate employment changes (Schulman, 1980).

Du Rand and Neufeldt (1975) describe the steps in the

continuum as follows:

1. Sheltered Employment

refers to an employment service with a controlled environment which is subsidized or requires subsidy because of relatively low worker performance capacity. Pay for work to individuals should be performance based, but will likely need to be subsidized. The work is meaningful and provided in a work environment with appropriate equipment, so that the individual can perform at an optimal level;

2. Sheltered Industry

- refers to an industry that is operated to provide sheltered employment, but is cost-benefit production oriented. Workers could anticipate minimum wage pay or better, depending on performance. The composition of the work force might range from one which involves primarily handicapped persons---with small work groups of non-handicapped worker-models---to one in which one half to two-thirds of the work force is non-handicapped.

3. Semi-Sheltered Employment (Group)

- refers to a small group of handicapped persons working in a regular industry. These workers would be paid on a performance based scale and should be expected to support themselves as any other employee of that industry. The difference between this step

and sheltered industry is that in most sheltered industries a relatively small number of non-handicapped workers would work as a group within a work force that is primarily handicapped, while in this instance the reverse holds;

4. Competitive Work With Support

- refers to the handicapped worker placed into regular work setting in normal industry. Counsellor maintains regular contact to make certain that proper job stabilization takes place. Properly developed, the training on the job programs and others like it could fit this step;

5. Individual Competitive Employment, and Self Employment

- refers to an individual person working in a regular job with no more continuing support than any worker typically receives, or, an individual who is self-employed, such as in operating a service that can be purchased on an individual contract basis.

Du Rand and Neufeldt (1975) provide the following illustration of the employment continuum from dependence to independence (see Figure 2). They point out that the specific types of employment opportunities that can be developed within one of the levels on the continuum are highly dependent on local conditions, i.e. environment, innovativeness, and initiative and consequently can be remarkably varied. They further state that the only constraining factors are those which affect skill training considerations, namely, the types of industrial or work

# Employment Continuum from Dependence to Independence

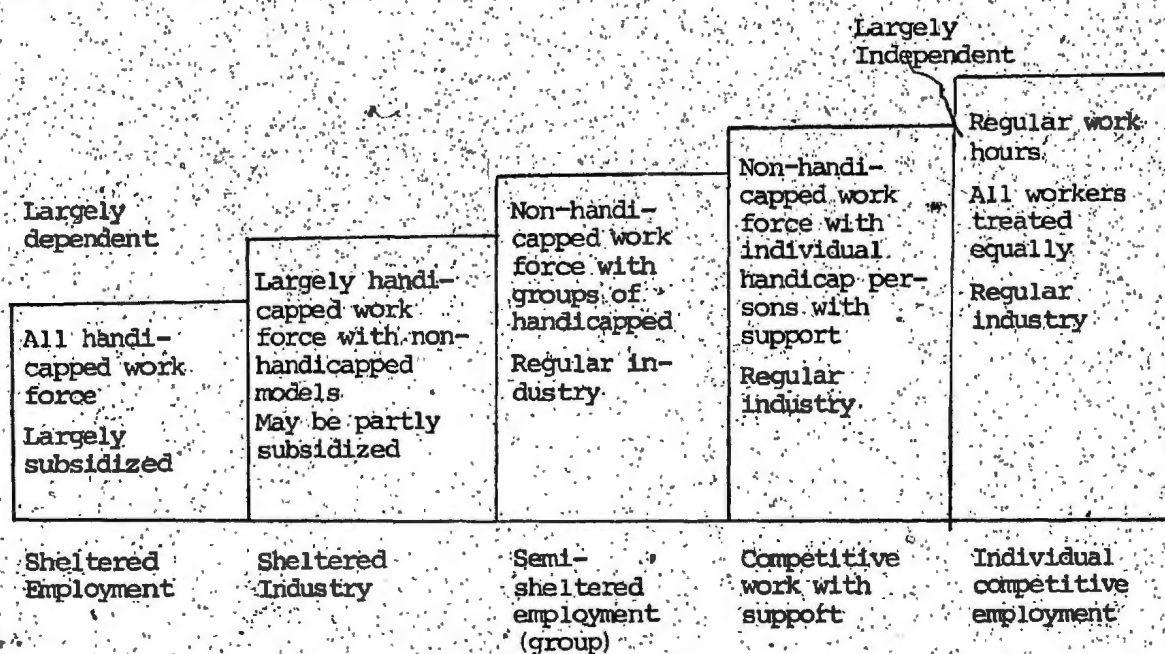


Figure 2

opportunities that are available in a specific geographic region; however, work opportunities are available in all types of geographical settings, whether urban or rural. Their conclusion is that the provision of a comprehensive vocational service system with an open-ended range of employment options emphasizing a number of fundamental principles of employment is central to career development and career choices becoming a reality for mentally retarded purposes (Du Rand and Neufeldt, 1975). They conclude by stating: "Only by these means do persons who are handicapped have the opportunity to live a meaningful and dignified life" (p. 48).

#### Summary

The research of the literature on vocational services for trainable mentally retarded people has revealed that they are in their infancy and that future development, if it is to be in keeping with current guiding principles and theories, should be focused on the provision of a comprehensive vocational service systems model.

### Section 2: Futures Studies and the Delphi Technique

#### Futures Research Studies

##### Introduction

Planning for and prediction of the future now absorbs a considerable proportion of the energies invested in our major

social institutions. Industrial, governmental, religious, academic and other organizations are committed to long range forecasting and futures exploration for the sake of their own development and that of society (McHale, 1978). This new awareness of the future is a new field of endeavor, hardly more than fifteen years old, that has been christened with the name "futures research." Allen (1978) refers to such research as an effort to anticipate and prepare for the future before it unfolds. He states,

Futures research is not that concerned with predicting the future - an activity best left to fortune-tellers - but is primarily concerned with discovering future consequences resulting from specific decisions or policies. (p. 75)

With its focus on thoughtful, systematic explorations of the future, futures research affords its greatest utility in planning and policy-making and from the aid it can lend decision-makers in the public and private sectors (Allen, 1978; Fowles, 1978; Goldsmith, 1975; King and Cleland, 1978; Loye, 1978; McHale, 1978; Quade, 1975; Schwarz, 1976).

McHale (1978) points out that for the more modest, the term "futures studies" suffices, implying a more open-ended inquiry while avoiding the more rigorous connotations of "research," with its implications of scientific objectivity, verifiability and value neutrality. Dror (1973) writes that the basic aim of futures studies is to replace subjective certainty by objective structured uncertainty. One might say that futures studies are characterized by some kind of systems



approach as an instrument for a holistic perception and understanding of problems and problem families related to a decision-making situation (Schwarz, 1976). Current approaches in the field may be summarized as follows:

1. Descriptive: including conjectural, speculative, and imaginable modes as in many classical utopian futures;
2. Exploratory: forecasting based on methodical and relatively linear extrapolation of past and present developments into the future, i.e. the "logical future," including most technological forecasting, some scenario-building, and the most deterministic types of socioeconomic forecasting.
3. Prescriptive: normatively oriented projection of the future in which explicit value insertions and choices are made about how a specific future may be viewed or attained, i.e. the "willed future", (McHale, 1978)

Allen (1975) indicates that activities in the field of futures studies can be broken down into three centres of activity: planning, forecasting and decision-making. Forecasting is the beginning of a process that leads to planning, decision, and creative action - the first step in preparing for the future (Hopkins, 1978). In the early years the field was dominated by a concern with technological forecasting; today the emphasis has shifted more to the normative end of the spectrum with concerns about planning and decision making

(Allen, 1978). Allen believes that forward analysis is a necessary first step to developing plans and policies for attacking problems and their related complexities. In every field, we engage in forecasting future trends and developments so that we can make more useful and fruitful decisions which are all part of planning for the future (Hopkins, 1978).

The function of futures research studies is to provide decision makers with operationally meaningful assistance in the form of information and analysis that can facilitate better decision-making (Helmer, 1978). By forecasting the future environment and the consequences of alternative plans for coping with the environment, it attempts to improve the decision-making process. The concept of forecasting is broadened to one that attempts to explain the effects of various actions so that effective policies can be generated, thereby creating the future conditions deemed desirable. Essentially, one is offering a cybernetic view of life: through our actions we affect the environment, which in turn affects us, so that an evolving cycle is established (Allen, 1978). Because the speed and direction of this cycle cannot be immediately corrected, it must be anticipated, necessitating the development of a sense of direction and understanding that actions have to be monitored and continuously modified. Futures research studies, then, is a necessary and indispensable part of the planning process. We cannot plan intelligently without information, even conjectural or hypothetical information, on what lies ahead, and we need the research to

obtain the understanding required for formulating meaningful goals and for making plans for progressing toward these goals (Hopkins, 1978).

Allen (1978) writes that the most valuable resource of policy makers is the future, and in order to learn, use and control this resource, they must ground themselves in futures thinking. He makes the following points about such thinking: (1) futures research studies do not tell what will happen, but instead what will likely happen; (2) the planning period is much greater in futures research than in traditional planning - ten to thirty years as opposed to one to five years; and (3) the signs of what the future looks like are found in the present.

Helmer (1978) writes that a necessary ingredient of futures research studies is the reliance on the intuitive judgement of experts throughout all phases of the effort. They are called upon to (1) supply judgemental data about the future, based on their intuitive, though often theoretically unstructured, insights into real world phenomena; (2) construct ad hoc models or to judge the suitability of existing models; (3) apply their expertise as role players in simulation games, and (4) use their imagination and inventiveness to design the instrumentalities and long range strategies that result in appropriate action programs. Much of the work in futures research rests on the opinion, judgement and speculation of these experts, so it is important that projections be derived systematically (Allen, 1978). Despite this reliance on

expert judgement, opinion and speculation, futures research studies aspire to be objective; to preserve such objectivity, the futures researchers must dissociate logically from the experts, that is, he must regard himself as an experimenter who uses the experts as measuring instruments of reality, taking their pronouncements about the future world in the same spirit as, say, the readings on a measuring device are taken as an indication of some property of the present world (Helmer, 1978). Helmer further points out that because futures research studies are concerned with the planning of human activities, they are, of necessity, multi-disciplinary and must involve experts from the various disciplines involved to obtain cooperation toward common planning objectives.

#### Criticisms

A number of authors have identified practical and physiological difficulties with future studies. Amara (1978) begins by stating that "it is a truism that the future is largely unknowable"; however, he continues by pointing out that although largely unknowable, the future is not entirely unknowable and that the acknowledged limitations of futures probing and the increasing necessity for dealing with the future more effectively generate somewhat opposing forces.

Hoos (1978) believes that futures research is methodologically impoverished - "They may, in fact, present a simplified and often distorted view of reality because only the quantifiable is taken into account: the non-quantifiable,



which may be crucial, is systematically excluded." She emphasizes the pivotal role of data in such research and the weakness of this pivot and urges caution in depending on futures research methodology for accurate forecasts.

Not only are the methods of futures research fallible, but so are the futurists themselves (Fowles, 1978). Miles (1978) points out that like other humans, futurists come to their tasks with biases and blindnesses that prejudice their efforts. However, as Loe (1978) points out, such methods view the subjectivity of experts as a valuable quantity. Miles further accuses futurists of an incautious reliance on science and technology and asserts that they retard the development of more valuable movements, e.g. historicism, ethnocentrism, scientism, technological determinism, mystification and elitism. However, as Robert Heilbroner concedes at the outset of *An Inquiry into the Human Prospect*, "conclusions regarding the course of mankind must be, and indeed ought to be shaped by subjective values because of the deficiencies in science" (1974, p. 23).

Richard Henschel (1978), although unsure whether or not self-altering predictions are features of large scale historical processes, argues that they often pertain to futures research studies. The actions of humans can operate to make false predictions true and true predictions false---forecasts can be self-fulfilling or self-defeating (Fowles, 1978). Although he acknowledges that such self-altering predictions can be allowed for by focusing on satisfactory forecasts

of the range of likelihoods for the future as opposed to satisfactory forecasts, he suggests caution when plans or policies are constructed on the basis of those forecasts.

Rokeach (1973) defines a value as

a standard that guides and determines action, attitudes towards subjects and situations, ideology, presentations of self to others, evaluations, judgements, justifications, comparisons of self with others, and attempts to influence others. (p. 25)

and suggests that a value can describe either desirable conduct or a desirable goal. People engaged in forecasting and planning activities, forced to rely on their values more than others are, sometimes feel that this is no shortcoming because values by their very nature are above reproach - they do hard work; they help orient individuals and order societies (Fowles, 1978). However, again because of their nature, they fluctuate in time and long range plans may turn out to be inappropriate or offensive to those who have to live with them, through no fault of the initial forecasting and planning effort. Fowles (1978) describes three precepts jointly necessary for dealing with such a discrepancy between present plans and future values: (1) hazard guessing about future values, i.e. proposing several varieties of future-value sets, (2) giving consideration to the altering of future values, i.e. manipulation and (3) creating flexible plans.



### Methods

Despite and because of the difficulties presented above, as well as our unsettling times and the fact that those who are required to outline plans and policies for future action are rarely satisfied with the information or choices available to them, there has been constant pressure to develop futures research studies (Fowles, 1978). In response to this pressure a variety of futures research studies techniques has been developed to provide frameworks for the activity of future planners, decision-makers and futurists. These techniques can be categorized into three groups as follows: (1) qualitative, where all information and judgement relating to an item or issue are used to forecast the item's demands, (2) causal, where a cause-and-effect type of relation is sought, and (3) time-series analyses, where a statistical analysis on past demands is used to generate the forecasts (Thomopoulos, 1980). Qualitative forecasting methods generally use the opinions of experts to subjectively predict future events (Bowerman and O'Connell, 1979). Causal and time series analysis represent a more quantitative approach to forecasting that is used when historical data are available (Thomopoulos, 1980). A brief description of the most commonly discussed and employed practices and procedures follows, as well as a more detailed discussion of the Delphi Technique, a qualitative forecasting method often used to predict changes when such changes cannot be predicted because historical data are not available or scarce. These descriptions are provided to give a clearer

understanding of the scope of futures studies, the versatility of the techniques and the fact that more than one of the techniques or aspects of the techniques can be combined in carrying out future planning activities. According to Dole et al. (1969), the Delphi Technique is the most versatile and can be used in each phase of the planning process.

#### The Practice of Intuition:

There is more room for intuition in futures research than in other rational inquiries (Fowles, 1978). In an attempt to increase awareness and responsiveness with regard to the future, Mendell (1978) outlines practices and processes to accommodate different ideas and ways of thinking about a situation, i.e. empathizing, analogizing environmental scanning, and posture planning.

#### Science Fiction:

Livingston (1978) believes that futures studies requires that science fiction be taken seriously. Science fiction, for its part, represents an alternative cognitive map, another way of capturing reality by integrating futurist techniques with the act of creative imagination (Livingston, 1978).

Objective forecasting cannot indicate the widest range of alternatives for the future, nor can it suggest the fullness of life in times to come - subjectivity inherent in futures research can be enhanced through attention to science fiction (Fowles, 1978).

### Images of the Future:

The review of the literature indicates that the phrase "images of the future" has been well used by futurists to refer to visions of the ideal that can serve to orient present behavior. Suitable images of the future are believed to increase the likelihood of improved conditions in the decades ahead (Fowles, 1978). Huber (1978) writes that the emphasis of this practice is on the pursuit of what is desirable as opposed to cognizance of what is probable.

### Scenarios:

Kahn and Wiener (1967) define a scenario as a hypothetical sequence of events constructed for the purpose of focusing attention on causal processes and decision points. Wilson (1978) points out that although they may appear to be dramatic exercises of intuitive imagination, they can be disciplined explorations of the future and a serious basis for planning. Scenarios are another device for stimulating consciousness of the future; however, they do not generate them (Fowles, 1978).

### Trend Extrapolation:

The analysis of trends is based on the empirical examination of some phenomena with repeated measurements taken across time (Hill, 1978). Since most of our everyday lives are premised on the operation of continuities, trend extrapolation presents no conceptual difficulties - trends are methodologically easy to fashion (Fowles, 1978). However, as

Hill (1978) indicates, the methodology is often elaborate, the statistical techniques complex and causality often unanswered.

#### Cross-Impact Analysis:

A basic limitation of many forecasting methods is that they produce only isolated forecasts; that is, events and trends are projected one by one, without explicit reference to their possible influence on each other despite the fact that most events and developments are in some way connected with other events and developments (Stover and Gordon, 1978). Gordon and Hayward (1968) created a technique to systematically explore the chances and consequences of interactions which has since developed into a highly quantitative, computer-assisted forecasting method. Its use has helped analysts improve their understanding of the complex interactions among the events being studied, and while the consideration of such events is crucial to the study of the future, most systems cannot be described fully with events only (Stover and Gordon, 1978). As a result, its application is limited and the major application of the procedure is often in combination with other techniques (Fowles, 1978).

#### Simulation Gaming:

According to Richard Duke (1978), simulation games are best considered as structured communication settings in which the players come to grasp the patterns and ramifications of the alternate futures that get played out. He states that such

games can provide an overview, a level of detail appropriate to the task at hand, mechanisms that illustrate the major dynamics of the linkages among the system components and a sense of how the system responds to particular proposals. They serve four basic functions: to transmit information, to extract information, to establish multilogues between players, e.g. the research team and to motivate players and prepare them for some future experience (Duke, 1978). Although this procedure can be an intensive learning experience, it is one of the most costly modes of communication for both construction and use (Fowles, 1978).

#### Technological Forecasting:

Technological forecasting is an attempt to anticipate through quantitative methods the kind and degree of advances in a particular technology (Martino, 1978). Although such forecasting provides important baseline data to industry and government agencies, there is little emphasis paid to the social, political and cultural contexts in which the developments take place.

#### Technological Assessment:

Although related to technological developments, technological assessment does not project a technology. Rather, it forecasts what the consequences might be if a particular technology already on the horizon is adopted. It systematically examines the effects on society that may occur when a



technology is introduced, extended or modified and emphasizes those consequences that are unintended, indirect, or delayed (Coates, 1978).

#### Social Indicators:

Fowles (1978) refers to social indicators as trend measures that gauge how well a society is proceeding toward its goals. Beyond serving as benchmarks in ascertaining the current status and direction of change, social indicators must also identify the values central to those trends and conditions, and using normative and exploratory projections, illustrate the potential for further development (Johnston, 1978). To be relevant to the needs of policy makers or decision makers, they must be normatively significant, descriptively accurate and, of course, measure societal features of interest to such people. The degree to which they achieve these ends is viewed as a measure of the value of the indicator. In addition, social indicators must be developed independently of, and supplementary to, economic and technical activity and reflect the non-technical and non-economic norms appropriate to these spheres (Sawhill, 1974). Finally, as Johnston (1978) indicates, although social indicators offer an enriched data base to which forecasting techniques may be applied, they cannot provide new or improved forecasting techniques. Their greatest value lies in providing more criteria to determine whether forecasting techniques are fruitful or not (Fowles, 1978).



### Modeling:

In recent years modeling has become one of the most influential techniques used for thinking about the future (McLean, 1978). Michael McLean defines a model (often referred to as simulation model) as a mathematical representation of a system from which the behavior of the system over time can be inferred. Amara (1978) indicates that the principal value of such a representation is that it helps one to understand how the real thing or process is structured or works. In attempting to reproduce the behavior of the system being modeled, models take two basic forms: (1) static - representing a system at a single point in time, and (2) dynamic - tracing the behavior of a system at successive points in time. A useful and commonly used method of classifying models involved the extent to which they are intended to describe the way the system works and evolves, and to what extent they prescribe how a system could or should evolve (McLean, 1978). Few models fall entirely into either category--description and prescription characteristics are evident in most. As Fowles (1978) indicates, they aspire to describe the workings of the complex systems in which humans are enmeshed and to ascertain where those systems are headed. He states that as a new approach for a new field (futures studies) and a comprehensive method for comprehensive questions, it seems ideal.

Although he urges that modelers exercise caution about being too single-minded in their conception of the future and too baroque in their constructions of models, McLean (1978)

emphasizes that in providing an explicit framework for thinking about the future of a particular aspect or system of the real world, models also possess great potential for facilitating communication between disparate individuals and research groups working on common problems. The central focus of the analysis of the limitations of modeling is that any single forecasting technique is inherently inadequate - the use of models is an important way to think about the future, but it cannot be the only way (Encel et al., 1975). Amara (1978) writes of the problems involved in the modeling of social systems for which there is often inadequate theoretical framework. He states that when we attempt to model non-physical processes---economic, social, political---we realize that our knowledge and understanding of the important system variables and how they are interrelated are inadequate and incomplete. While the use of models may assist in organizing one's thinking, making assumptions explicit, and communicating with others, their usefulness as forecasting tools is severely limited when they are used alone (Meadows, et al., 1972). However, as Fowles (1978) points out, such limitations are severely reduced when two or more futures studies forecasting techniques are used together in a project.

### The Delphi Technique

#### Introduction:

One of the more useful items in the futurist's bag of tricks is the Delphi Technique (Fowles, 1978). The technique

is one that futures research studies can claim for their very own. In the 1950's, the Rand Corporation adopted the name Delphi, which referred to the hallowed site of the most revered oracle in ancient Greece, for a procedure to "obtain the most reliable consensus of opinion of a group of experts ... by a series of intensive questionnaires interspersed with controlled opinion feedback" (Dalkey and Helmer, 1963, p. 458). The technique was originally developed at Rand to help the United States military make more accurate forecasts for long-range decisions. At that time the Corporation was conducting research on the use of group opinion forecasting, usually in the form of face-to-face committee discussions to develop group opinion. The research tended to confirm the well-known disadvantages of the committee approach:

- intense social pressure to go along with the majority;
- strong vocal minority opinions overriding the majority;
- a reluctance to get involved in a conflict leading to an agreement for agreement's sake;
- hesitation to disagree with a superior or perceived authority;
- an undue emphasis on trying to change viewpoints; and
- personality clashes. (Allen, 1978)

Jones and Twiss (1978) summarize these criticisms as inadequate representation, deference to authority, and sociological factors in group interaction such as persuasiveness, reluctance to modify views previously expressed and the bandwagon effect. Rand concluded that the committee approach to forecasting

produced inaccurate results, and they subsequently proceeded to investigate the idea of developing forecasts leading to a consensus without the face-to-face committee discussion, which led to the invention of the Delphi technique.

#### History:

The Delphi technique was first designed by Dalkey and Helmer (1963) and elaborated on by Helmer (1967) who emphasized the need for accurate forecasts as a planning aid for decision makers in the public and private sectors, and Dalkey (1967) who concluded that it was more accurate than committee discussions. Brown (1968) published the first comprehensive technical paper on the Delphi technique, providing a concise summary of the development, previous applications and steps in running a Delphi. Also, in 1968, Dalkey and other researchers at Rand began a series of ten experiments dealing with factual (quantitative) judgements which further verified the Delphi technique. As the Rand Corporation's researchers gained confidence in Delphi in the area of factual judgement, they began to expand the method into the area of value judgement (Allen, 1978). Rescher (1969) published the first technical paper on the application of Delphi in the value judgement area. The first experiment to develop and analyze value judgement of a group was conducted by Dalkey and Rourke (1971). In commenting on the historical development of the Delphi Technique from the confirmation of "factual" data into the realm of "judgemental" data, Allen

(1978) stated that:

This is probably natural since when we make forecasts about future events we must do so without detailed factual knowledge. Such an exercise must rely on judgement. And in scientific research the role of judgement continues as one does not really prove the truth of the research hypothesis as much as one is able to reject the null hypothesis. Thus Delphi is not as unique an instrument for its use of judgemental as might first appear. All science begins in philosophy, hence, judgement. (p. 123)

According to Jones and Twiss (1978) the real value of Delphi is the giving of opinions as subjective judgements developed by iteration. Helmer (1967) writes of the use of such judgement as playing a vital role in planning for the future:

... the lagging progress in the soft sciences is merely an indication that much of our understanding of what goes on is still on an intuitive level rather than of a form where it can be articulated and abstracted into theory; it does not mean that such understanding is absent. To tap this knowledge, because it is not neatly formalized but distributed in the minds of many people, it is necessary to develop methods, of which the Delphi technique is one, for collecting the opinions of individual experts and combining them into judgements that have operational utility to policy makers. (p. 11)

The Delphi procedure, as developed by the Rand Corporation, appeared to be a useful device and was initially applied to technological forecasting and corporation planning (Linstone, 1978). From America, Delphi spread to Europe and the Orient, and as it grew, found its way into industry, government, science and academe. Today, Delphi has been used in many planning situations to generate policy options and to measure the impact of such options (Allen, 1978). Olaf Helmer, coinventor of the technique, believes that it is a methodology

suitable to any problem and subsequent policy making requiring expert judgment as a necessary input. Linstone and Turoff (1975) provide a contemporary definition as follows: "Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing of individuals, as a whole, to deal with a complex problem" (1975, p. 3). They further point out that to accomplish this structured communication there is provided some feedback of individual contributions of information and knowledge; some assessment of the group judgement or view; some opportunity for individuals to revise views; and some degree of anonymity for the individual responses. Clearly, these characteristics may offer distinct advantages over the face-to-face conference as a communication tool (Linstone, 1978). By eliminating face-to-face discussion and other personal interaction (i.e. the influence of a strong vocal minority, strong social pressures and the band-wagon effect), the expert can express his or her viewpoints with anonymity, thus insuring a low-risk or threat-free environment; questionnaires are the only means of communication among the experts (Allen, 1978). The Delphi Technique is an attempt to overcome or eliminate such personal interaction, which is one of the more severe communication barriers (Martino, 1978; Schipper and Kenowitz, 1976).

Fowles (1978) believes that the Delphi method is not so much a forecasting device as a way of organizing communication among a panel of knowledgeable people. Quade (1975) views



Delphi as an iterative procedure for eliciting and refining the opinions of a group of people by means of a series of individual interrogations (usually in questionnaire form). He states:

In practice, the group would consist of experts or especially knowledgeable individuals, possibly including some of the responsible decision-makers. The idea is to improve the panel or committee approach in arriving at a forecast or estimate by subjecting the view of the individual participants to each other's criticism in ways that avoid the psychological drawbacks associated with unstructured face-to-face confrontation. (p. 131)

Thus, the primary objective of Delphi is not to produce "right answers as much as it is to produce a communication climate most conducive for rational and objective thought" (Allen, 1978).

Rasp (1973) views the Delphi Technique as a technique for collecting judgements that attempts to overcome the weaknesses implicit in relying on a single expert, a one-shot group average, or a round table discussion. Jones and Twiss (1978) point out that the technique enables a group of experts to contribute to one another's understanding and to refine their opinions as a result of interaction with other experts, so that some individuals and their rationales do not become submerged in the overt activities of a group. The technique collates the knowledge and intuitive judgement of experts concerning specific problems or concerns and is particularly useful because its projections of the future are largely based on the expectations of knowledgeable individuals (Schipper and Kenowitz, 1976). According to Yates (1972) these individual judgements are systematically combined to produce a reasoned

and interpretable consensus which is reached through bias-free, open-ended, and non-threatening interaction between individuals with no hidden agendas and anonymity of responses. Fusfeld and Foster (1971) suggest that involvement with Delphi methodology stimulates thinking which justifies its use as a field-based planning and training experience. However, since the Delphi Technique produces a consensus judgement, it should not be viewed as yielding complete, precise descriptions of the future (Schipper and Kenowitz, 1976).

#### Objectives:

Turoff (1970) identified several possible objectives of the Delphi Technique as follows:

1. To determine a range of possible alternatives;
2. To explore underlying assumptions which lead to differing judgements;
3. To seek information which may generate a consensus of judgement;
4. To correlate informed judgements on a topic spanning a wide range of disciplines;
5. To create an awareness in the respondent group of the diverse aspects of a given topic.

Jones and Twiss (1978) believe that the purpose of the Delphi is to exploit the specialized knowledge and judgement of experts to (a) ascertain new factors influencing future development, (b) check on the feasibility of a given event

occurring under stated conditions; (c) use the experts' judgments to forecast a time scale for an event and (e) obtain subjective quantitative measures of activity levels in the absence of objective data.

#### Delphi Method:

The Delphi method involves a series of steps, including: (1) predictions by each expert, (2) clarification by a neutral investigator, and (3) requestioning of experts combined with feedback from other experts designed to eliminate misinterpretations and to bring to the attention of each expert elements not known to all (Jones and Twiss, 1978). Allen (1978) further elaborated on these steps outlining a procedure that involved the use of five questionnaires as follows:

- Step 1. Develop the Delphi question
- Step 2. Select the panel of experts
- Step 3. Develop the Delphi questionnaire
- Step 4. Analyze the first questionnaire
- Step 5. Develop the second questionnaire
- Step 6. Develop the third questionnaire
- Step 7. Develop the fourth questionnaire
- Step 8. Develop the final questionnaire
- Step 9. Analyze results
- Step 10. Prepare a final report.

Rasp (1973) proposed a similar procedure; however, he eliminated the fifth questionnaire.

Linstone (1978) outlined a flexible questionnaire approach as follows:

Step 1. Formation of a team to undertake and monitor a Delphi.

Step 2. Selection of panel

Step 3. Development of the first round questionnaire

Step 4. Testing the questionnaire for proper wording

Step 5. Transmission of the first questionnaires to the panelists

Step 6. Analysis of the first round questionnaire

Step 7. Preparation of the second round questionnaire

Step 8. Transmission of the second round questionnaire

Step 9. Analysis of the second round questionnaire

(Steps 7 to 9 are reiterated as long as desired or as necessary to achieve stability in the results)

Step 10. Preparation of a report by the analysis team to present the conclusions of the exercise.

#### Policy Delphi:

Linstone and Turoff (1975) and Turoff (1970) report on the introduction and development of a form of the Delphi technique referred to as the Policy Delphi. As the name suggests, the focus of Policy Delphi is on the potential resolutions of major policy issues. They view a policy issue as one for which there are no experts, only informed advocates and referees. The Policy Delphi also rests on the premise that the decision-maker



is not interested in having a group generate his decision, but rather prefers to have an informed group present all the options and supporting evidence for his consideration (Linstone and Turoff, 1975). It is therefore a tool for the analysis of policy issues, and not a mechanism for making a decision. Although the generation of a consensus is desirable, it is not the prime objective. The prime objective is to expose all the differing positions advocated and the principal arguments for those positions. In fact, the structure of the communication process, as well as the choice of the respondent group, may be such as to make consensus on a particular resolution very unlikely (Linstone and Turoff, 1975). Turoff (1970) stresses that it is merely an organized method for correlating views and information pertaining to a specific policy area and for allowing the respondents representing such views and information the opportunity to react to and assess differing viewpoints. He points out that a Policy Delphi should be able to serve any one or any combination of the following objectives: (1) to ensure that all possible options have been put on the table for consideration, (2) to estimate the impact and consequences of any particular option, and (3) to examine and estimate the acceptability of any particular option. Linstone and Turoff identified six phases in the Policy Delphi process as follows:

Phase 1. Formulation of the issues

Phase 2. Exposing the options

- Phase 3. Determining initial positions on the issues
- Phase 4. Exploring and obtaining the reasons for disagreements
- Phase 5. Evaluating the underlying reasons
- Phase 6. Reevaluating the options

Although in principle the above process would require five rounds, most Delphis on policy try to maintain a three round limit by using the following procedures:

- (1) the monitor team devoting a considerable amount to pre-formulating the obvious issues;
- (2) seeding the list with an initial range of options but allowing for the respondents to add to the lists;
- (3) asking for positions on an item and underlying assumptions in the first round.

(Linstone and Turoff, 1975)

In addition to recommending that the person/s undertaking to carry out such a process should be familiar with what has taken place in the field, Linstone and Turoff further emphasize that informed people representing the many sides of the issue under examination should be chosen as participants. Jones (1975) points out that Delphi is often used to combine and refine the opinions of a heterogeneous group of experts or knowledgeable individuals in order to establish a judgement based on a merging of the information collectively available to the experts. Indeed, in a situation in which a decision-maker has to rely on the advice of experts, he may be well advised to select his experts so as to represent different



schools of thought on the subjects in question (Quade, 1975).

A Policy Delphi deals largely with statements, arguments, comments, and discussion; to establish some means of evaluating the ideas expressed by the respondent group rating scales must be established for such items as relative importance, desirability, confidence and feasibility of various policies and issues (Turoff, 1970). Turoff explains that these scales must be carefully defined so that there is some reasonable degree of assurance that the individual respondents make compatible distinctions between concepts such as "very important" and "important." Linstone and Turoff (1975) indicate that on the resolutions to a policy issue it is usually necessary to assess both desirability and feasibility and usually unwise to attempt to ask for a vote on more than two dimensions of any item.

Some additional guidelines on carrying out the Policy Delphi process are as follows:

- the number of professionals acting as the design, monitor team must be at least two (ideally, one should be knowledgeable in the problem at hand and the other should have editorial talents);
- a month or more is needed to develop the first-round questionnaire (background materials is usually required);
- each questionnaire should be pretested on co-workers who have not been involved in the design;
- take care to avoid compound statements to be voted on;
- provide examples of the form the comments should take, i.e. being short, specific and singular in nature;
- the respondents should be allowed to suggest changes in the wording of items which should then be introduced as new items;

- when asking for revotes on an item, the individual respondent should be shown his original vote; and
- the respondent must be convinced that they are participating in an exercise which involves a peer group.  
(Linstone and Turoff, 1975)

#### Delphi Characteristics

As Jones and Twiss (1978) indicate, modifications to the basic Delphi are too numerous to detail; however, almost all modified Delphis are designed to achieve three attributes that are believed to contribute to authentic consensus and valid results: anonymity of respondents, statistical group response and iteration and controlled feedback. Although the participants are queried and they respond by means of a formal mode of communication, their anonymity is protected. In determining an estimate or prediction, the responses are not matched with the respondents and even the identity of the participants may be concealed from each other until the end of the exercises (Quade, 1975). The Delphi technique replaces discussion by iteration and controlled feedback controlled by a steering group or exercise manager. Quade (1975) explains that after each questionnaire, the information, or part of it, generated in previous stages is fed back to the participants in order that they may use it to revise their earliest answers and to reduce irrelevant or redundant material. He points out that although the group opinion tends to converge with feedback, the normal outcome is a spread of opinion even after several iterations, and rather than attempting to force unanimity, a

statistical index, usually the median, is used to represent the group response. This way of defining the group judgement reduces pressures for conformity and ensures that the opinion of every member plays a role in determining the final response (Quade, 1975). Allen (1978) further points out that if the data involve rankings, scaling or ordinal data, then the appropriate statistics are median and percentile. The specific statistical process is outlined as follows:

- (1) Receipt of initial estimates or predictions, arrangement in order of magnitude, determination of quartiles, i.e.  $Q_1$ ,  $M$  and  $Q_3$ ;
  - (2) Communication of the values  $Q_1$ ,  $M$ , and  $Q_3$  and request for reconsideration of previous estimate (if this estimate is outside  $(Q_1, Q_3)$  a reason is also requested;
  - (3) Communication of the second round values of  $Q_1$ ,  $M$ , and  $Q_3$  and request for reconsideration; and
  - (4) Unless additional rounds seem advisable, the median of these round three responses may then be taken as representing the group position.
- (Quade, 1975)

The validity of this process is supported by a number of experiments designed to investigate the technique itself. Dalkey and Rourke (1971) summarize the results of these experiments as follows:

- (1) In almost all cases, there is a pronounced convergence of opinion with iteration. On the initial round opinions tend to have a wide spread. This decreases steadily in succeeding rounds.

- (2) The principal decrease is between the first and second rounds, following initial feedback.
- (3) For cases in which the accuracy of responses can be checked, the accuracy of the group responses increases with iteration.

In reporting of an empirical investigation of the Delphi methodology, Barnette, Danielson and Algozzine (1978) write that the differences in variances generated by the second round of the Delphi process were highly predictable from the first round item variances, suggesting that subsequent iterations may not provide additional information. They further reported that large sample sizes tend to generate problems with regard to determining when statistical significance is equal to research importance; that lengthy instruments be reduced through statistical procedure (i.e. factor analysis) or that short instruments dealing with specific domains of interest be developed; and that items which requested a scaled response such as Likert type items tended to be adequate (items which were too open-ended provided the respondent with an opportunity to offer more of an emotional response and thus it was recommended that they should be somewhat structured in terms of reasonable parameters or designed as scale type items).

Jones and Twiss (1978) point out that in preparing the questionnaire great care must be taken so that the questions are: unambiguous, unconditional, sufficient in information, the right questions to ask and limited in number. They state that the number of questions should be restricted to 20-25 and

that the number of participants should not exceed fifty. Salancik, Wenger, and Helfer (1971) probed the questions of question length and reported that there is a "right" length for Delphi statements (i.e. a length that leads to a maximum in the amount of information obtained) and that low and high number of words yield low consensus, with intermediate-length statements producing the highest consensus (twenty to twenty-five word statements formed the peak in the distribution).

#### Advantages

A number of authors have reported on the advantages of the Delphi technique. Quade (1975) maintains that it offers a hope of introducing a systems approach into a range of problems that can be further complemented by the formulation of a model. He believes that the written question and answer Delphi method has certain virtues, which include keeping the attention directly on the point at issue, being democratic and producing documented records. He further states that there is evidence from applied exercises that iteration produces convergence with value judgements (while acknowledging that whether this convergence is stable or capricious is not visible from the uncontrolled exercises), and that a large amount of the diffuse experience with Delphi suggests that the structural properties of the procedure lead to enhanced acceptance on the part of individual participants beyond what is obtained with the more conventional face-to-face procedures.

Allen (1978) cites several advantages of the Delphi

technique over other ways of eliciting judgemental data as follows:

It tends to reduce the tendency to follow the leader and lessens the band-wagon effect so common in group settings.

It focuses attention on the issue and reduces the tendency for members to get the group sidetracked.

It allows "experts" who have no history of communication to be able to communicate due to the lack of face-to-face interaction.

It allows panel members to communicate without actually having to get together physically.

It reduces or eliminates entirely the possibility of a dominant personality controlling the outcome of the group.

It produces a threat-free environment for an individual to state his opinion. It provides a communication structure in which everyone has a chance to be heard equally.

It provides controlled feedback to the respondents.

It is economically productive because experts do not have to be brought together and housed in order to interact.

It generates a wide range of responses, thereby assisting in trying to describe future events.

It is a technique that is usually enjoyed by the participants because of the responses that are fed back to them.

It does not require elaborate procedures to conduct.

(pp. 125-126)

Beyond allowing an expert to express an opinion or to speculate about issues, Hudspeth (1972) cites two major advantages of the technique: (1) after at least one round of discussion the probability increases of receiving unbiased responses, and (2) the probability decreases that convergence of views occurs by chance, that is, because each respondent reviews all event statements, bizarre or chance events tend to be eliminated in the movement towards consensus.

Loye (1978), after examining the works of Helmer, Dalkey and Gordon, as well as other Delphi studies, stated that these



works seem to provide a compelling case for the following propositions:

1. By "pooling" the capacity of individuals, it is possible to attain an appreciable increase in the accuracy of predictions.
2. One part of this increase comes from drawing on the knowledge and experience of many, rather than of a single mind.
3. Another part of this increase comes from the structuring and intensifying, or focusing, that group prediction methodologies bring about.
4. Another part of this increase comes from the participants being isolated from the distorting influences of the customary group discussional situation.
5. Another part of these increases comes from the aspect of Delphi methods calling for intensive continuing research - the nature of the individual predictor.
6. A final main portion of this increase comes from the power of data processing and statistical analyses.

#### Criticisms:

The Delphi technique has spawned criticism as well as ardent support. Linstone (1978) believes that this is a healthy sign. Critics question the use of experts, the lack of insight into the information processing involved and the nature and effects of feedback (Kennedy, 1980). Quinn (1971) described limitations that included such factors as surprise

events, inadequate or biased data and unpredictable interactions. Morris (1971) criticized the Delphi technique for not capitalizing on the extensive mathematical literature on the theory of subjective probabilities. Weaver (1970) believes that Delphi gives insufficient attention to psychological values and attitudes toward the future. Pill (1971) states that the technique is too heavily based on human intuition. Milkoyech, Annoni, and Mahoney (1972) emphasize the loss of valuable data because of the non-interaction of participants. Derian and Morize (1973) criticize conventional Delphi for taking the central tendency of pooled opinion at face value as the best estimate of expert opinion. Weaver (1972) attacked the technical limitations of Delphi, such as being subject to experimenter bias, subjectivity and lack of alternatives. He further questioned the use of experts and the notion that convergence improves the accuracy of a forecast. Quade (1975) points out that it remains to be determined how much of the convergence that takes place is induced by the process itself, rather than by elimination of the basic cause of disagreement. He also views lack of personal communication and face-to-face confrontation as disadvantages as well as the difficulty of constructing unambiguous questions and the time consuming exchange of information. Loye (1978) states that a criticism made of Delphi studies is that such research is overly dependent on the artificiality of almanac methods rather than the rough test of reality. Sackman (1975) provided the most comprehensive critique of the Delphi method, emphasizing

many of the criticisms indicated above. Although he acknowledges advantages of low cost, versatile application, ease of administration, and the simplicity, popularity and directness of the method, he emphasizes that these and related advantages are characteristically obtained by unwarranted assumptions in method and approach and by seriously compromising the reliability, validity and integrity of final results. He believes that the advantages of the Delphi technique are inconsequential if the conventional Delphi concept, method and results are inherently untrustworthy. Sackman concludes that there has been very little scientific literature on Delphi and that the accuracy of the technique in generating forecasts and other expert estimates is necessarily suspect as long as Delphi questionnaires are not empirically linked to objective and independent verifiable external validation criteria. However, Sackman's critique of the Delphi has caused some very intense reactions. Loye (1978) states that Sackman's book, *Delphi Critique*, is warped and savagely biased. Coates (1975) believes that Sackman has missed the point. Kennedy (1980) elaborated on this by stating that if evaluations of the Delphi technique are to be worthwhile and believable, the focus must shift to viewing the technique in terms of its opinionative nature, rather than applying scientific rigour and experimental assumptions as evaluative criteria. Furthermore, many of the criticisms of the technique focus on the methodology of Delphi while giving very little attention to the results. Turoff (1970) stresses that the potential use of the Delphi should be

evaluated only on the basis of whether it produces results in greater utility than other alternatives. As for the accuracy of these results, which has been questioned by a number of critics, Quade (1975) acknowledges that not much can be done experimentally with long-range forecasts to check on such accuracy; however, he further suggests the investigation of the reliability of forecasts and predictions, in the technical sense of consistency of judgements over similar groups of "experts."

Weaver (1972) and Sackman (1975) both criticized the use of experts; however, these criticisms appear to be ill-founded. Weaver questioned their expertise on the basis of objectivity, maintaining that they have been assumed expert because they are objective. However, in no case have experts been assumed objective; rather, they make informed intuitive judgements (Kennedy, 1980). Sackman's criticisms appear to be inappropriately centered around literal pre-occupation with the word "expert." He is reluctant to accept informed and knowledgeable individuals as "experts," despite the facts that (1) the use of such people satisfies the purposes of the Delphi technique and (2) such people are the appropriate individuals that should communicate about the problem.

The practising planner is likely to be interested less in such theoretical justification for techniques than its usefulness to him as an aid in making improved forecasts (Jones and Twiss, 1978). Jones and Twiss also chide the critics because they do not propose alternate practical

solutions to the problems of the Delphi technique. They believe that the social necessity for futures studies and future planning outweigh the technical and logical difficulties, while acknowledging that this is not to pose infallibility, nor to say they don't need improvement, nor to suggest that the gifted individual may never outperform the group, nor to intimate that there are not many pitfalls. Sackman's own words suggest the grounds the Delphi technique must be judged. He states:

Some will grant the very shaky opinionative structure of Delphi and insist that Delphi was never really put forth as science, but merely as a heuristic vehicle for exploring vague and unknown future issues otherwise inaccessible. They might insist that Delphi as an exercise has generated many insights (Kennedy, 1980, p. 40).

#### Advice to Potential Users

In commenting on the advantages and limitations of the Delphi structured communication process, Linstone (1978) stresses that the most important advice to be given to the potential user is (1) to suit the method to the problem, not the problem to the method and (2) that ease of understanding is no excuse for sloppiness of execution. Indeed, poorly executed applications of Delphi provide the major focus for the critics' arguments. Quade (1975) stresses that the results from any Delphi depend on two critical factors: the makeup of the panel and the directors who implement the process. He urges Delphi users to select experts so as to represent different schools of thought on the subjects in question.

Linstone (1978) further writes that the Delphi designer should keep several major concerns in view when considering use of the technique. These include (a) that we all use a discount rate in viewing the future (and past) and that individuals discount the future at different rates; (b) that we all tend to simplify and consider only one or a few innovations preferring certainty to uncertainty and simplicity to complexity; (c) that in certain instances the alleged expert will be a poor forecaster, e.g. viewing the forecast in one setting only; (d) that the format of the questionnaire (particularly for policy Delphis) may be unsuitable to some potential societal participants; and (e) that it is possible to manipulate the Delphi technique for deception (not surprising when viewed as a communication technique). He emphasizes that while it is not a panacea, it offers a very powerful instrument for group communication.

According to Linstone (1978), when we view Delphi as a communication process, the wide spectrum of uses quickly becomes apparent. He points out that the process has been applied to exposing priorities of personal values and social goals, explicating the pros and cons associated with potential policy options, evaluating budget allocations, examining the significance of historical events, and distinguishing or clarifying perceived and real human motivations; it is particularly useful in the following circumstances:

1. The problem does not lend itself to precise analytical



techniques but can benefit from subjective judgements on a collective basis:

2. The individuals who need to interact cannot be brought together in a face-to-face exchange because of time or cost constraints.

Delphi should only be invoked when historic data as a basis for extrapolation is not available or not reliable, that is, it should be invoked to acquire subjective opinions of the likely level of activity of a novel phenomenon where historical data cannot yet exist (Jones and Twiss, 1978). Because many of our societal problems are novel or in their infancy and have never been dealt with before and therefore have no historical record, it is apparent that our problem-solving attempts must emphasize (1) explanation so that the credibility and plausibility of estimates can be judged, and (2) generation rather than utilization of expert judgement (Allen, 1978).

#### Uses

Linstone and Turoff (1975) site a number of uses of the Delphi Technique as follows:

- (1) exploring urban and regional planning options;
- (2) planning university campus and curriculum development;
- (3) delineating the pros and cons associated with potential policy options;
- (4) gathering current and historical data not accurately known or available;
- (5) examining the significance of historical events;

- (6) evaluating possible budget allocations;
  - (7) putting together the structure of a model of a complex problem by eliciting statements of structure and process of it;
  - (8) developing causal relationships in complex economic or social phenomena;
  - (9) distinguishing and clarifying real and perceived human motivations; and
  - (10) exposing priorities of personal values and social goals.
- (p. 4)

Allen (1978) concurs with these uses and identifies others:

- (1) measuring the impacts of a particular policy on other variables in the problem;
  - (2) identifying barriers to the implementation of a particular policy;
  - (3) constructing theory through a series of statements about the most significant research finds in the field; and
  - (4) identifying barriers to the implementation of a particular policy.
- (p. 126)

Allen emphasizes the recent use of Delphi in planning exercises where participants are asked to generate postures or behaviors that might be used either to enhance or reduce the probability that an event will occur. The essence of such planning is to make present decisions with knowledge of their futurity (Drucker, 1974).

Although primarily used to forecast technological changes, the Delphi technique has recently been adopted for use in social and educational planning (Allen, 1978; Andea, 1972; Goldsmith, 1975; Molnar, 1975; Quade, 1975; Sandow, 1970;

Schipper and Kenowitz, 1976). Recent publications suggest that the Delphi methodology holds considerable promise for educational planning and can have a critical impact on the decision making processes associated with educational management and administration (Anderson, 1970; Brooks, 1979; Hudspeth, 1972; Reynolds, 1973; Sanche, 1979; Schipper and Kenowitz, 1976; Weatherman and Swensen, 1974; Yates, 1972).

The Delphi methodology has also been applied to various aspects of national, regional and organizational planning problems (Bell Canada Inc., 1972; Delberg, 1975; Fowles, 1978; Linstone and Turoff, 1975). A number of authors report on its use in government planning (Goldsmith, 1975; Jillson, 1975; Jones, 1978; Ludlow, 1975; Quade, 1975; Turoff, 1975). Others report on its use in business and industry (Baran, 1971; Bell, 1968; Bender, Strack, Elbright and Ven Haunalter, 1969; Day, 1973; Enzer, 1975; Goldstein, 1975; Linstone, 1978; Linstone and Turoff, 1975; TRW Probe 2, 1969). Delphi has been used in a number of other settings as well, including such divergent subjects as assessments regarding the quality of life, estimating crime statistics, in medicine to obtain estimates of current rates of disease incidence, national political structure, international relations, and values and the impact of technology on government and society (Allen, 1978). Worsham (1980) further indicates use of the technique in communication planning, economic analysis and development, exploratory development, personnel administration, recreation, transportation planning, information systems, energy consumption and

electronics. Linstone and Turoff (1975) provide a very elaborate Delphi bibliography, citing over six hundred (600) publications pertaining to its development and use. Worsham (1980) presents a selected bibliography of approximately one hundred and fifty (150) applications of the technique.

Summary:

The increasing use, as well as the increasing focus on the improved accuracy, of the Delphi technique stands as the strongest testimony to its importance in supplying "soft" data in the social sciences and in providing a variety of decision-makers with ready access to specialized expertise (Helmer, 1975). The opinionated nature of the pooling of consciousness as afforded by the Delphi methodology offers a tool we must speedily ~~now~~ investigate and use more effectively (Jones and Twiss, 1978). The research of the literature has revealed that such methodology can be appropriately and effectively used to investigate the future development of a systems model of services, such as a comprehensive vocational services system model.

## CHAPTER III

### METHODOLOGY

#### Research Method

The Delphi technique was selected as the research method for this study because it permitted the solicitation of information regarding future directions in the field of vocational services for trainable mentally retarded people from the province-wide "community of advice" upon which government decision-makers frequently rely. The method attempts to make systematic, effective use of informed and intuitive judgements by identified "experts" in a given field of inquiry regarding future developments and conditions in that field. A detailed discussion of the technique has been included in the research of the literature.

#### Statement of Procedures

The Delphi technique was applied in the following steps:

Step 1. Development of the pilot Delphi questionnaire. A series of questions or "event statements" regarding future developments and conditions in the field of vocational services for trainable mentally retarded people was prepared by the investigator (twenty-five items).

Step 2. Pilot Study. The questionnaire was circulated to



fellow colleagues, professors, and other professionals (approximately six to eight in total) who were asked to check the questionnaire items for the following:

- (1) Are they ambiguous? Are they phrased so that the respondents interpret them the same way?
- (2) Are they unconditional? Because there is a cross-impact between events, the items should be worded so that all respondents are clear about the specific area of inquiry. The answer to each question must not be conditional on the respondent's answer to another question.
- (3) Are the questions the right ones to ask? In the long run, would they assist decision makers?
- (4) Are they vague? They should provide the respondents with ample information to enable them to answer the question.
- (5) Are the instructions clear?
- (6) Are the scales appropriate?

Step 3. Selection of the panel of experts. As indicated previously, an "expert" simply means someone who is familiar with the stated problem. For the purposes of this study, the panel of experts consisted of a heterogeneous group of professionals involved with vocational services and programming for trainable mentally retarded people.

The panel was chosen on the basis of professional occupation as follows:



|   |           |
|---|-----------|
| (a) special education and special services supervisors .....                    | 22        |
| (b) social service regional directors .....                                     | 5         |
| (c) work oriented rehabilitation center (WORC) co-ordinators and managers ..... | 4         |
| (d) rehabilitation counselors .....   | 5         |
| (e) special needs counselors .....  | 12        |
| (f) department directors and coordinators .....                                 | 7         |
| Total   | <u>55</u> |

At this time the participants were assigned a code name to identify them throughout the exercise. (Although the researcher had access to each participant's identity, for the purposes of the study their anonymity was guaranteed.) Each participant was randomly assigned a code name from Delphi 101 to Delphi 155 inclusive.

Step 4. Transmission of the first round questionnaire. The feedback received from the pilot study was integrated into the questionnaire and the questionnaire was circulated by mail to the participants. Included with the questionnaire was a letter of endorsement from one of the following (see Appendices A & B).

|  |  |
|--|--|
| Dr. Mike Steer<br>Director of Special Education                            | - (a) special education and special services supervisors   |
| Mr. Gilbert Pike<br>Deputy Minister of Social Services                     | - (b) regional directors<br>(c) WORC coordinators<br>(d) rehabilitation counselors<br>(f) department directors |
| Mr. G.J. Everard<br>Director-General<br>Employment & Immigration<br>Canada | - (e) special needs counselors   |

Each participant was provided with two forms and requested to complete both---one copy to be returned and the other to be retained for reference in succeeding rounds (see Appendices C and D). To establish some means of evaluating the ideas expressed by the respondent group, rating scales were adapted from Turoff, 1975. The participants were asked to respond to each statement item with regard to two dimensions or scales: (1) Desirability and (2) Feasibility as follows:

Desirability (Effectiveness or Benefits)

| Level            | Scale | Description  |
|------------------|-------|--|
| Very Undesirable | 1     | will have a major negative effect<br>extremely harmful<br>not justifiable                              |
| Undesirable      | 2     | will have a negative effect<br>harmful<br>justifiable only as a by-product<br>of a very desirable item |
| Desirable        | 3     | will have a positive effect<br>beneficial<br>justifiable in conjunction with<br>other factors          |
| Very Desirable   | 4     | will have a major positive effect<br>extremely beneficial<br>justifiable on its own merits             |

## Feasibility (Practicality)

| Level                 | Scale | Description  |
|-----------------------|-------|--|
| Definitely Unfeasible | 1     | all indications are negative<br>unworkable<br>cannot be implemented  |
| Possibly Unfeasible   | 2     | some indications are negative<br>some indications this is<br>workable<br>significant unanswered questions  |
| Possibly Feasible     | 3     | some indications this is<br>implementable<br>some research and development<br>still required<br>further consideration or prepa-<br>ration to be given to<br>political or public reaction |
| Definitely Feasible   | 4     | no hindrance to implementation<br>no research and development<br>required<br>no political roadblocks<br>acceptable to the public   |

The participants were also encouraged to express short arguments or comments on each item and to suggest improvements and/or additional questions/statements for inclusion in the next round.

In the first round, background information was requested.

from each participant and included the following:

- (1) occupation
- (2) number of years of post-secondary education
- (3) number of years of professional work experience
- (4) approximate number of trainable mentally retarded people that he/she is professionally involved with.
- (5) self-rating of expertise in the field of vocational services for trainable mentally retarded people (rating scale range 1-4)

Step 5. Analysis of the first round questionnaire. On receipt of the returned forms, the researcher determined the initial positions on the ideas presented and gave consideration to the written statements of the participants. The median and inter-quartile range of the responses on both scales were computed.

Step 6. Development and transmission of the second round questionnaire. The objective of this round was to have the participants review the answers generated by the first round questionnaire. The respondents were supplied with the data from round one (median and inter-quartile range); included with each item were representative comments of those who fell within the inter-quartile range. The respondents were asked to give consideration to these and reforecast. Those whose answers on round one fell outside the inter-quartile range were requested to state their reason and reforecast. Also included was a copy of their first round response (See Appendices E, F and G).

In effect, this round explored the reasons for disagreements (i.e. what underlying assumptions, views, or facts were



being used by the individuals to support their respective positions).

Step 7. Analysis of the second round questionnaire. On receipt of the returned forms, the researcher again computed the median and the inter-quartile range. A consolidated list of reasons put forward was also prepared.

Step 8. Development and transmission of the third round questionnaire. The respondents were circulated the data from round two, together with (1) the list of reasons from those who fell outside the inter-quartile range and (2) representative comments of those who fell inside the inter-quartile range. Also included was a copy of their second round response. Based on these arguments and counter-arguments, the participants were asked for new forecasts and further comments. For those whose answer fell outside the inter-quartile range, a response in the form of a counter-argument was requested, stating why the majority argument in favour of a different answer was not persuasive (see Appendices H, I and J).

In effect, this round evaluated the underlying reasons presented by those who fall outside the inter-quartile range.

Step 9. Analysis of third/final round questionnaire. On receipt of the returned forms, the researcher once again computed the median and the inter-quartile range. The medians of the responses of this final round were accepted as the group's position, representing the nearest thing to consensus.

Step 10. Final Report. A final report indicating the spread of opinions, consensus answers, and minority arguments in defense of deviant responses was prepared and circulated to each participant.

### Statistical Techniques

The instrument used in this research study included rating scales and ordinal data. In such a case, the appropriate statistics are median and percentile or quartile ranks. The median and inter-quartile range were calculated for each scale on every question for each of the three rounds.

The statistical measure, average inter-quartile difference, was used as a measure of variance around the median for each round. The two tailed t-test was used to test the significance of this statistic and to construct a confidence interval around it. The t-test was chosen because it is recommended for testing inferences about the mean of a population (Glass & Stanley, 1970). In this case the mean tested was average quartile difference. The t-test is also recommended when the sample number is thirty or less (Glass & Stanley, 1970). In this case the sample number is exactly thirty, i.e. thirty quartile differences.

In choosing the two-tailed t-test, the assumption is made that the variable (X), quartile difference, has normal distribution around the mean quartile difference. Violations of this assumption have little effect upon either



the level of significance or the power of the two-tailed t-test (Glass & Stanley, 1970).

In applying the two-tailed t-test the hypothesis to be tested is tested by means of a test statistic.

$$t = \frac{\bar{X} - a}{s_x / \sqrt{n}}$$

where

$$s_x = \sqrt{\frac{(X_1 - \bar{X})^2}{n - 1}}$$

the standard deviation around the mean,

$\bar{X}$  = sample mean,

$X_1 - \bar{X}$  = deviation scores,

$n$  = sample size,

and  $a$  = sample value being tested.

Applying the t-test at .01 and .05 levels of significance, which are both acceptable levels, provides 99% and 95% confidence intervals respectively. These two confidence intervals are constructed as follows:

$$\bar{X} \pm 1 - (\alpha/2) t_{n-1} \frac{s_x}{\sqrt{n}} =$$

$$(\bar{X} - 1 - (\alpha/2) t_{n-1} \frac{s_x}{\sqrt{n}}, \bar{X} + 1 - (\alpha/2) t_{n-1} \frac{s_x}{\sqrt{n}})$$

The Delphi technique and the statistical analysis of the results of the technique were carried out as indicated above. Chapter IV will present and discuss the results of this study.

## CHAPTER IV

### RESULTS AND DISCUSSION

#### Results

Three rounds of the Delphi technique were carried out to complete this study. In each round panelists were asked to respond to thirty statements (numbered from 6 - 35) on two rating scales, Desirability and Feasibility, and, where applicable, to reconsider their previous response in light of the reported group response and discussion (See Appendices C-J).

On the first round questionnaire panelists were also asked to provide personal background information (numbered from 1-5) as follows:

1. occupation,
2. educational background (years of post-secondary training),
3. work experience (years in special education or rehabilitation),
4. professional involvement with trainable mentally retarded people (numbers),
5. self rating of expertise in the field of vocational services for trainable mentally retarded people (See Appendix D).

Subjects were identified for possible participation in this study on the basis of their professional involvement in the provision of vocational services to trainable mentally retarded people. Sixty-nine percent (38 of 55) of the identified subjects completed and returned the first round questionnaire.

These participants, representing six groups (see Table 1), provided personal background information that is summarized by group averages and ranges in Table 2. The background data for each group is based on the total number of respondents in each group. The work experience of the entire group, ranging from 3 - 10+ years, averaged approximately seven years. The professional involvement with trainable mentally retarded people, ranging in numbers from 1-100+, averaged approximately twenty-five.

Some of the 38 participants of round one did not participate in the last two rounds of the exercise. Sixty percent (33 of 55) completed and returned the round two questionnaire and fifty-eight percent (32 of 55) completed and returned the round three questionnaire.

Summaries of the statistical analysis for each of these rounds are presented in Tables 3, 4 and 5. Included with each item number in each of these tables are:

- (1) the median,
- (2) the interquartile range (IQR),
- (3) the quartile difference, or interquartile range length (Q3 - Q1),
- (4) the percentage of participants indicating responses that fell within the interquartile range, and
- (5) the level of significance (Table 5 only).

This data is presented for both the Desirability and Feasibility scales. Also included with each of Tables 3, 4 and 5 are (1) the average or mean quartile difference on both scales, and (2) the



Table 1

## Participation of Identified Sample Members

| Group | Occupation   | Questionnaire           | Return Rate                   |
|-------|--|-------------------------|-------------------------------|
|       |  | Number<br>Participating | Percentage of<br>Participants |
| A     | Special Education<br>Supervisor/Co-ordinators                | 15/22                   | 68                            |
| B     | Social Service Regional<br>Directors                         | 4/5                     | 80                            |
| C     | Work Training Centers<br>Coordinator/Managers                | 2/4                     | 50                            |
| D     | Rehabilitation Counselors                                    | 5/5                     | 100                           |
| E     | Special Needs Counselors                                     | 8/12                    | 75                            |
| F     | Other Department and<br>Regional Directors/<br>Co-ordinators | 4/7                     | 57                            |

Table 2

## Background Information on the Sample

| Group          | Education <sup>a</sup><br>(years) | Work<br>Experience <sup>b</sup><br>(years) | Involvement <sup>c</sup><br>Numbers | Self-Rating <sup>d</sup><br>(Expertise) |
|----------------|-----------------------------------|--|-------------------------------------|---|
| A              | 7                                 | 3 - 10+                                    | 10 - 100                            | 1.93                                    |
| B              | 3.5                               | 5 - 10+                                    | 10 - 100+                           | 2.0                                     |
| C              | 0                                 | 1 - 10                                     | 1 - 20                              | 2.75                                    |
| D              | 4.2                               | 1 - 10+                                    | 11 - 100                            | 2.0                                     |
| E              | 3.6                               | 1 - 10+                                    | 1 - 20                              | 1.9                                     |
| F              | 6                                 | 2 - 10+                                    | 10 - 100+                           | 2.5                                     |
| Total<br>Group | 5.1                               | 1 - 10+                                    | 1 - 100+                            | 2.04                                    |

a = number of years of post-secondary education

b = number of years of professional work experience

c = approximate number of trainable mentally retarded people that he/she is professionally involved with

d = self-rating of expertise in the field of vocational services for trainable mentally retarded people (rating scale range 1-4).



Table 3

## Summary of Data on Round One

| Ques. | Desirability |         |       |    | Feasibility |         |       |    |
|-------|--------------|---------|-------|----|-------------|---------|-------|----|
|       | Median       | IQR     | Q3-Q1 | %  | Median      | IQR     | Q3-Q1 | %  |
| 6.    | 3.7          | 3.2-4.0 | .8    | 74 | 2.8         | 2.8-3.1 | .3    | 68 |
| 7.    | 3.8          | 3.5-4.0 | .5    | 76 | 3.0         | 2.2-3.5 | 1.3   | 50 |
| 8.    | 3.7          | 3.1-4.0 | .9    | 68 | 2.6         | 2.0-3.1 | 1.1   | 81 |
| 9.    | 3.7          | 3.1-4.0 | .9    | 71 | 2.7         | 2.1-3.1 | 1.0   | 51 |
| 10.   | 3.8          | 3.8-4.0 | .2    | 84 | 2.7         | 2.1-3.1 | 1.0   | 51 |
| 11.   | 3.9          | 3.8-4.0 | .2    | 86 | 2.8         | 2.1-3.2 | 1.1   | 41 |
| 12.   | 3.8          | 3.8-4.0 | .2    | 84 | 2.9         | 2.1-3.2 | 1.1   | 47 |
| 13.   | 3.9          | 3.8-4.0 | .2    | 92 | 2.8         | 2.2-3.2 | 1.0   | 53 |
| 14.   | 3.9          | 3.8-4.0 | .2    | 87 | 3.1         | 2.8-3.8 | 1.0   | 51 |
| 15.   | 3.6          | 3.1-4.0 | .9    | 66 | 3.0         | 2.8-3.2 | .4    | 56 |
| 16.   | 3.8          | 3.8-4.0 | .2    | 76 | 2.8         | 2.2-3.2 | 1.0   | 54 |
| 17.   | 3.8          | 3.8-4.0 | .2    | 84 | 3.0         | 2.8-3.2 | 1.0   | 56 |
| 18.   | 3.5          | 3.0-4.0 | 1.0   | 95 | 2.7         | 2.1-3.1 | 1.0   | 65 |
| 19.   | 3.9          | 3.8-4.0 | .2    | 86 | 2.8         | 2.1-3.2 | 1.1   | 46 |
| 20.   | 3.9          | 3.8-4.0 | .2    | 89 | 2.8         | 2.2-3.2 | 1.0   | 61 |
| 21.   | 3.9          | 3.8-4.0 | .2    | 88 | 3.0         | 2.8-3.2 | .4    | 69 |
| 22.   | 3.9          | 3.8-4.0 | .2    | 92 | 2.7         | 2.1-3.1 | 1.0   | 51 |
| 23.   | 3.8          | 3.8-4.0 | .2    | 82 | 2.6         | 2.0-3.1 | 1.1   | 86 |
| 24.   | 3.8          | 3.8-4.0 | .2    | 77 | 2.8         | 2.2-3.2 | 1.0   | 51 |
| 25.   | 3.8          | 3.8-4.0 | .2    | 77 | 3.0         | 2.8-3.2 | .4    | 63 |
| 26.   | 3.7          | 3.0-4.0 | 1.0   | 97 | 2.9         | 2.8-3.2 | .4    | 54 |
| 27.   | 3.8          | 3.8-4.0 | .2    | 78 | 3.2         | 2.9-3.9 | 1.0   | 49 |
| 28.   | 3.9          | 3.8-4.0 | .2    | 89 | 3.3         | 2.9-3.9 | 1.0   | 53 |
| 29.   | 3.9          | 3.8-4.0 | .2    | 85 | 3.2         | 2.9-3.9 | 1.0   | 48 |
| 30.   | 3.8          | 3.8-4.0 | .2    | 83 | 3.0         | 2.8-3.2 | .4    | 57 |
| 31.   | 2.9          | 2.0-4.0 | 2.0   | 86 | 2.3         | 1.8-3.0 | 1.2   | 74 |
| 32.   | 3.6          | 3.1-4.0 | .9    | 63 | 2.7         | 2.1-3.2 | 1.1   | 43 |
| 33.   | 3.8          | 3.8-4.0 | .2    | 78 | 3.2         | 2.9-3.2 | .3    | 71 |
| 34.   | 3.7          | 3.2-4.0 | .8    | 73 | 2.9         | 2.8-3.2 | .4    | 66 |
| 35.   | 3.6          | 3.1-4.0 | .9    | 66 | 2.6         | 2.1-3.1 | 1.0   | 56 |

IQR: Interquartile Range

Q3-Q1: Quartile Difference

%: Percent of Responses in interquartile range

Average Quartile Difference (Desirability) = .48

Average Quartile Difference (Feasibility) = .85

Variance Around Mean (Desirability) = .19

Variance Around Mean (Feasibility) = .85

Table 4

## Summary of Data on Round Two

| Ques.. | Desirability |         |       |     | Feasibility |         |       |    |
|--------|--------------|---------|-------|-----|-------------|---------|-------|----|
|        | Median       | IQR     | Q3-Q1 | %   | Median      | IQR     | Q3-Q1 | %  |
| 6.     | 3.9          | 3.8-4.0 | .2    | 82  | 2.8         | 2.8-3.1 | .3    | 73 |
| 7.     | 4.0          | 3.8-4.0 | .2    | 97  | 3.0         | 2.8-3.2 | .4    | 61 |
| 8.     | 3.8          | 3.8-4.0 | .2    | 79  | 2.8         | 2.3-3.1 | .8    | 67 |
| 9.     | 3.9          | 3.8-4.0 | .2    | 79  | 2.9         | 2.6-3.1 | .5    | 79 |
| 10.    | 3.9          | 3.8-4.0 | .2    | 97  | 2.8         | 2.6-3.1 | .5    | 79 |
| 11.    | 3.9          | 3.9-4.0 | .1    | 94  | 2.9         | 2.8-3.2 | .4    | 67 |
| 12.    | 4.0          | 3.9-4.0 | .1    | 91  | 3.0         | 2.8-3.1 | .3    | 79 |
| 13.    | 4.0          | 3.9-4.0 | .1    | 97  | 2.8         | 2.8-3.1 | .3    | 67 |
| 14.    | 4.0          | 3.9-4.0 | .1    | 100 | 3.1         | 2.9-3.2 | .3    | 70 |
| 15.    | 3.8          | 3.8-4.0 | .2    | 79  | 3.1         | 2.9-3.2 | .3    | 73 |
| 16.    | 3.9          | 3.8-4.0 | .2    | 88  | 2.8         | 2.8-3.2 | .4    | 67 |
| 17.    | 4.0          | 3.9-4.0 | .1    | 91  | 3.1         | 2.9-3.2 | .3    | 79 |
| 18.    | 3.6          | 3.1-4.0 | .9    | 70  | 2.8         | 2.6-3.1 | .5    | 85 |
| 19.    | 4.0          | 3.9-4.0 | .1    | 97  | 2.8         | 2.7-3.1 | .4    | 72 |
| 20.    | 4.0          | 3.9-4.0 | .1    | 97  | 3.0         | 2.8-3.2 | .4    | 79 |
| 21.    | 3.9          | 3.8-4.0 | .2    | 97  | 2.9         | 2.8-3.1 | .3    | 75 |
| 22.    | 3.9          | 3.9-4.0 | .1    | 94  | 2.8         | 2.4-3.1 | .7    | 75 |
| 23.    | 3.9          | 3.8-4.0 | .2    | 82  | 2.7         | 2.3-3.1 | .8    | 73 |
| 24.    | 3.9          | 3.8-4.0 | .2    | 88  | 2.9         | 2.8-3.2 | .4    | 61 |
| 25.    | 3.8          | 3.8-4.0 | .2    | 88  | 2.9         | 2.8-3.1 | .3    | 81 |
| 26.    | 3.8          | 3.7-4.0 | .3    | 74  | 2.8         | 2.8-3.1 | .3    | 71 |
| 27.    | 3.8          | 3.8-4.0 | .2    | 82  | 3.2         | 2.8-3.8 | 1.0   | 55 |
| 28.    | 3.9          | 3.9-4.0 | .1    | 94  | 3.2         | 2.9-3.7 | .8    | 70 |
| 29.    | 3.9          | 3.8-4.0 | .2    | 91  | 3.2         | 2.9-3.2 | .3    | 64 |
| 30.    | 3.9          | 3.8-4.0 | .2    | 94  | 3.1         | 2.9-3.2 | .3    | 77 |
| 31.    | 3.0          | 2.0-3.9 | 1.9   | 60  | 2.4         | 1.9-2.9 | 1.0   | 55 |
| 32.    | 3.8          | 3.8-4.0 | .2    | 79  | 2.9         | 2.8-3.1 | .3    | 64 |
| 33.    | 3.9          | 3.8-4.0 | .2    | 88  | 3.1         | 2.9-3.2 | .3    | 78 |
| 34.    | 3.8          | 3.8-4.0 | .2    | 77  | 3.0         | 2.8-3.1 | .7    | 75 |
| 35.    | 3.9          | 3.8-4.0 | .2    | 81  | 2.8         | 2.4-3.1 | .7    | 75 |

IQR: Interquartile Range

Q3-Q1: Quartile Difference

%: Percent of Responses in Interquartile Range

Average Quartile Difference (Desirability) = .25

Average Quartile Difference (Feasibility) = .46

Variance Around Mean (Desirability) = .12

Variance Around Mean (Feasibility) = .27

Table 5

## Summary of Data on Round Three

| Ques. | Desirability |         |       |     |   | Feasibility |         |       |    |          |
|-------|--------------|---------|-------|-----|---|-------------|---------|-------|----|----------|
|       | Median       | IQR     | Q3-Q1 | %   |   | Median      | IQR     | Q3-Q1 | %  | $\alpha$ |
| 6.    | 3.9          | 3.8-4.0 | .2    | 91  |   | 2.9         | 2.8-3.1 | .3    | 78 |          |
| 7.    | 4.0          | 3.8-4.0 | .2    | 97  |   | 3.0         | 2.8-3.2 | .4    | 69 |          |
| 8.    | 3.9          | 3.9-4.0 | .1    | 84  |   | 2.9         | 2.8-3.1 | .3    | 75 |          |
| 9.    | 3.9          | 3.9-4.0 | .1    | 94  |   | 2.9         | 2.8-3.1 | .3    | 72 |          |
| 10.   | 4.0          | 3.9-4.0 | .1    | 91  |   | 2.8         | 2.8-3.1 | .3    | 72 |          |
| 11.   | 4.0          | 3.9-4.0 | .1    | 100 |   | 2.9         | 2.8-3.1 | .3    | 72 |          |
| 12.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 3.0         | 2.9-3.2 | .3    | 84 |          |
| 13.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 2.8         | 2.8-3.1 | .3    | 78 |          |
| 14.   | 4.0          | 3.9-4.0 | .1    | 100 |   | 3.1         | 2.9-3.2 | .3    | 78 |          |
| 15.   | 3.9          | 3.9-4.0 | .1    | 84  |   | 3.1         | 2.9-3.2 | .3    | 81 |          |
| 16.   | 3.9          | 3.8-4.0 | .2    | 88  |   | 2.9         | 2.8-3.1 | .3    | 78 |          |
| 17.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 3.0         | 2.9-3.2 | .3    | 84 |          |
| *18.  | 3.8          | 3.5-4.0 | .5    | 88  | * | 2.9         | 2.8-3.1 | .3    | 78 |          |
| 19.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 2.8         | 2.8-3.1 | .3    | 81 |          |
| 20.   | 4.0          | 3.9-4.0 | .1    | 100 |   | 3.0         | 2.8-3.1 | .3    | 84 |          |
| 21.   | 3.9          | 3.8-4.0 | .2    | 97  |   | 2.9         | 2.8-3.1 | .3    | 81 |          |
| *22.  | 4.0          | 3.9-4.0 | .1    | 100 |   | 2.8         | 2.6-3.1 | .5    | 72 | *        |
| *23.  | 3.9          | 3.9-4.0 | .1    | 91  |   | 2.8         | 2.6-3.1 | .5    | 81 | *        |
| 24.   | 3.9          | 3.8-4.0 | .2    | 90  |   | 3.0         | 2.8-3.2 | .4    | 67 |          |
| 25.   | 3.9          | 3.8-4.0 | .2    | 94  |   | 2.9         | 2.8-3.1 | .3    | 84 |          |
| 26.   | 3.8          | 3.8-4.0 | .2    | 84  |   | 2.8         | 2.8-3.1 | .3    | 77 |          |
| *27.  | 3.8          | 3.8-4.0 | .2    | 91  |   | 3.2         | 2.9-3.8 | .9    | 63 | *        |
| 28.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 3.2         | 2.9-3.2 | .3    | 75 |          |
| 29.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 3.1         | 2.9-3.2 | .3    | 72 |          |
| 30.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 3.1         | 2.9-3.2 | .3    | 84 |          |
| *31.  | 2.9          | 2.8-3.2 | .4    | 55  | * | 2.2         | 1.9-2.6 | .7    | 80 | *        |
| 32.   | 3.9          | 3.9-4.0 | .1    | 84  |   | 2.9         | 2.8-3.1 | .3    | 78 |          |
| 33.   | 3.9          | 3.9-4.0 | .1    | 88  |   | 3.1         | 2.9-3.2 | .3    | 88 |          |
| 34.   | 3.9          | 3.8-4.0 | .2    | 90  |   | 3.0         | 2.9-3.1 | .2    | 81 |          |
| *35.  | 3.9          | 3.8-4.0 | .2    | 90  |   | 2.7         | 2.4-3.1 | .7    | 77 | *        |

IQR: Interquartile Range

Q3-Q1: Quartile Difference

%: Percent of Responses in Interquartile Range

 $\alpha$ : Level of Significance

\*: Statistically Significant at

Average Quartile Difference (Desirability) = .16

Average Quartile Difference (Feasibility) = .36

Variance Around Mean (Desirability) = .01

Variance Around Mean (Feasibility) = .02

Table 6

Average Quartile Differences for Rounds One, Two &amp; Three

| Scales           | Round |     |     |
|------------------|-------|-----|-----|
|                  | 1     | 2   | 3   |
| Feasibility (F)  | .85   | .46 | .36 |
| Desirability (D) | .48   | .25 | .16 |
| F-D              | .37   | .21 | .20 |

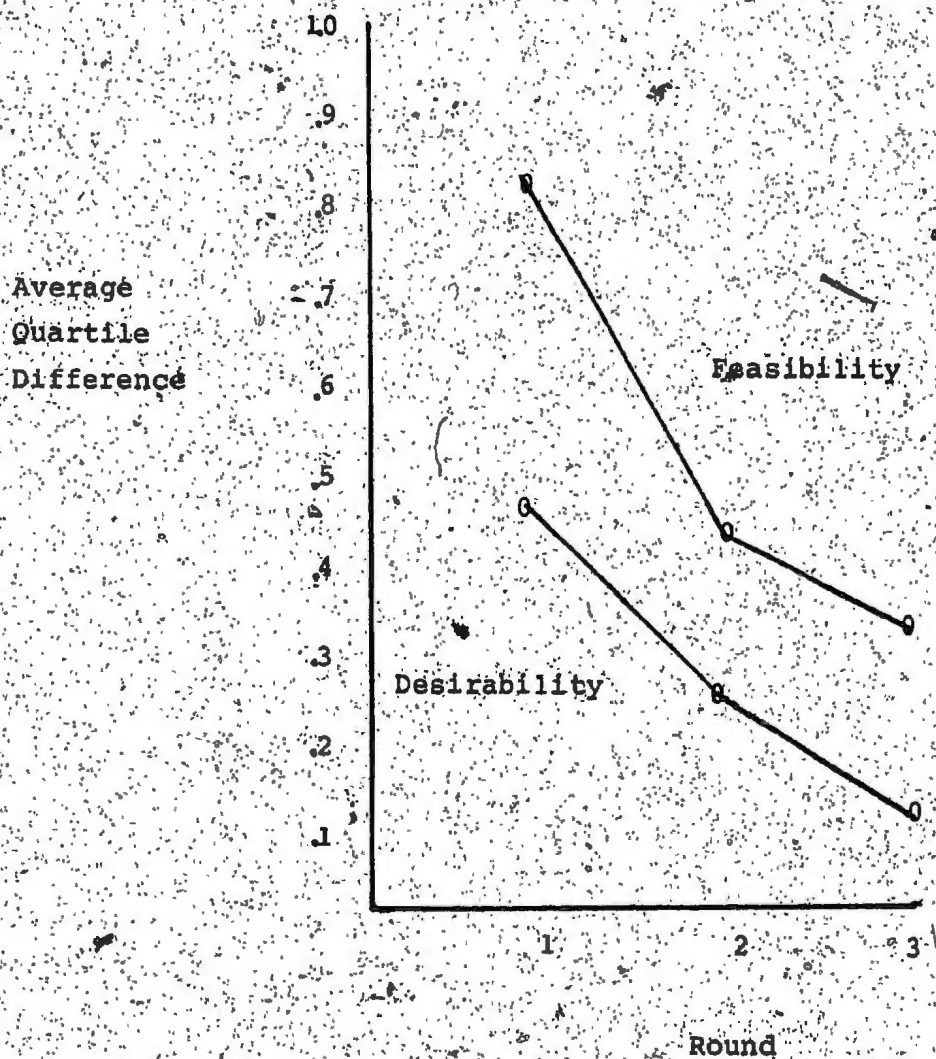


Figure 3

Average Quartile Differences for Rounds  
One, Two, and Three --- A Graph



Table 7

## Variance Around the Mean Quartile Differences

| Scales       | Round    |         |          |         |          |         |
|--------------|----------|---------|----------|---------|----------|---------|
|              | 1        |         | 2        |         | 3        |         |
|              | Variance | Range   | Variance | Range   | Variance | Range   |
| Feasibility  | .85      | 0.3-1.3 | .27      | 0.3-1.0 | .02      | 0.2-0.7 |
| Desirability | .19      | 0.2-2.0 | .12      | 0.1-1.9 | .01      | 0.1-0.5 |

Variance = Variance around the mean quartile difference

Range = Range of quartile difference values



Table 8

## Round 3 Confidence Intervals

| Levels       |                                   | Confidence Intervals |             |
|--------------|-----------------------------------|----------------------|-------------|
| Significance | Confidence<br>100 (1- $\alpha$ )% | Desirability         | Feasibility |
| .01          | 99%                               | (.10, .22)           | (.28, .44)  |
| .05          | 95%                               | (.12, .20)           | (.30, .42)  |

variance around the mean quartile difference on both scales.

The average quartile differences are compared in Table 6 and graphically illustrated in Figure 3. The average quartile difference decreases on both scales from round one to round two and from round two to round three. From round one to round two the decrease amounts to approximately 46% on the Feasibility scale and 48% on the Desirability scale. From round two to round three the decrease amounts to approximately 22% on the Feasibility scale and 36% on the Desirability scale. The difference between Feasibility and Desirability average quartile differences decreases approximately 43% between round one and two and only 5% between round two and three.

The variance around the mean quartile difference also decreases from round one to round two and from round two to round three, as does the range of quartile difference scores (see Table 7). Applying the third round quartile difference scores to acceptable significance and confidence levels yields confidence intervals as indicated in Table 8 and as applied in Table 5.

#### Consensus Items

Applying acceptable significance levels, i.e. .01 and .05, to the data attained from round three of this exercise, reveals that a high degree of consensus was reached on 28 of the 30 items on the Desirability scale (93%) and 25 of the 30 items on the Feasibility scale (83%). Considering both dimensions together,

a high degree of consensus was reached on 24 of the 30 items (80%). The items that did not obtain such consensus, i.e. statistical significance at .01 and .05, are identified by a single asterisk in Table 5. Although percentages of responses contained in the interquartile range have to be viewed cautiously when interpreting the results of a Delphi exercise (Scheibe, Skutsch, & Schofer, 1975), the consideration of these percentages, in addition to the consideration of acceptable quartile differences, further qualifies that satisfactory consensus has or has not been reached.

#### Relationship Between Desirability and Feasibility Dimensions

In general, the panel of experts expect that very desirable events will occur in the field of vocational services for trainable mentally retarded people in this province by 1995. The panel were less optimistic regarding the feasibility of these events. In general, they expect that these developments may be feasible. Considering all thirty items, after three rounds of the Delphi exercise, the average median Desirability rating is 3.9 with median ratings ranging from 2.9 - 4.0 (with the exception of item 31: D Mdn. 2.9, F Mdn. 2.2, the range is from 3.8 - 4.0). The average median Feasibility rating is 2.9 with median ratings ranging from 2.2 - 3.2 (with the exception of item 31, the range is from 2.7 - 3.2).

### Discussion

In spite of the heterogeneous composition of the Delphi panel (see Table 1), considerable consistency was noted in the predictions of major trends and developments. Agreement among panel members was higher on the degree of desirability of items than on the degree of feasibility. This tends to suggest that, in general, the panelists agree on what should take place, although they are less confident that it will take place.

Observation of Tables 3, 4, and 5 clearly reveals that the interquartile range of each item on both scales decreased (or remained the same) from round to round. Tables 6 and 7 and Figure 3 further qualify this decrease in their presentation of average quartile differences and variance around the mean quartile difference. These results and representation of results point to a convergence of opinion as measured by interquartile range length. They tend to suggest that with iteration, anonymity, controlled feedback and structured communication, a group of knowledgeable individuals in a given field can reach consensus on what future directions should be in that field.

For the purposes of discussion, the thirty items have been divided into four categories as follows:

- (A) Implementation of Service models,
- (B) Patterns of Vocational Services,
- (C) Service Provider Considerations,
- (D) Financial and Legal Considerations.

(A) Implementation of Service Models

According to the Delphi panel, vocational services in Newfoundland and Labrador will undergo major changes during the next ten to fifteen years. All of the items in this category (See Table 9) are viewed by the panel as very desirable (medians ranging from 3.8 - 4.0) and possibly feasible (medians ranging from 2.8 - 3.2).

The panel predicted that the principle of Normalization, "utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics, which are culturally normative as possible" (Wolfensberger, 1972, p. 28), will have become established as an important rule of thumb in this province's vocational service delivery by 1995 (item 9: D Mdn 3.9, F Mdn 2.9). They viewed the acceptance of this principle as very desirable and possibly feasible. It was pointed out that all people have a right to the privileges and benefits associated with living in the mainstream of society and that fifteen years is enough time to implement such a fair and justifiable concept. Some panel members were less optimistic that the principle would be accepted. They emphasized that this would be largely a matter of attitude change, requiring a massive public education program to pave the way and that it is doubtful that sufficient funds would be made available to carry out such a program. Others were hopeful that by 1995 the financial base would be available to implement such programs, pointing out that the process of acceptance has already begun with the



Table 9

Desirability and Feasibility of Items Related to  
the Implementation of Service Models

| Ques. | Desirability |         |       |     |   | Feasibility |         |       |    |   |
|-------|--------------|---------|-------|-----|---|-------------|---------|-------|----|---|
|       | Median       | IQR     | Q3-Q1 | %   |   | Median      | IQR     | Q3-Q1 | %  |   |
| 6.    | 3.9          | 3.8-4.0 | .2    | 91  |   | 2.9         | 2.8-3.1 | .3    | 78 |   |
| 9.    | 3.9          | 3.9-4.0 | .1    | 94  |   | 2.9         | 2.8-3.1 | .3    | 72 |   |
| 10.   | 4.0          | 3.9-4.0 | .1    | 91  |   | 2.8         | 2.8-3.1 | .3    | 72 |   |
| 14.   | 4.0          | 3.9-4.0 | .1    | 100 |   | 3.1         | 2.9-3.2 | .3    | 78 |   |
| *18.  | 3.8          | 3.5-4.0 | .5    | 88  | * | 2.9         | 2.8-3.1 | .3    | 78 |   |
| 21.   | 3.9          | 3.8-4.0 | .2    | 97  |   | 2.9         | 2.8-3.1 | .3    | 81 |   |
| *27.  | 3.8          | 3.8-4.0 | .2    | 91  |   | 3.2         | 2.9-3.8 | .9    | 63 | * |
| 28.   | 4.0          | 3.9-4.0 | .1    | 97  |   | 3.2         | 2.9-3.2 | .3    | 75 |   |

\* = statistically significant at .01



recognition of the rights of mentally retarded persons, as guaranteed by documents such as the Declaration of the Rights of Mentally Retarded Persons and the new Canadian Constitution. The easiest part of the complex process of normalization has begun; what is now needed is a more detailed articulation of its ends (Conway, 1976).

All members of the panel indicated that it would be highly desirable for the developmental model (every person has the capacity to learn, to grow, and to develop throughout life) to be used extensively in this province's vocational service delivery (item 10: D Mdn. 4.0, F Mdn. 2.8). Some members questioned the feasibility of this development, emphasizing that the myths associated with mental retardation must be first dispelled, requiring a real change in teacher training and attitudes. People need to understand that the structure of the environment in which mentally retarded people live is of prime importance to influencing the rate and direction of development and behavior change (Schulman, 1980). We need to develop services that will minimize the degree of handicap that the individual has and provide the supports necessary to open up most, if not all, of life's options to mentally retarded persons (Du Rand and Neufeldt, 1975).

The panel further predicted that by 1995 the custodial care model of vocational services, emphasizing the sheltered workshop, will be replaced by a model or models emphasizing a continuum of services (item 18: D Mdn. 3.8, F Mdn. 2.9). Although the overall panel viewed this development as very

desirable, the statistically significant (at .01 and .05) quartile difference score of 0.5 on the desirability scale (see Table 9) points to some uncertainty in the minds of some of the panelists. These panelists stressed that industrial/business job requirements are becoming more and more demanding, requiring greater amounts of training, education and skill development, which are all difficult areas for mentally retarded persons. Others argued that the sheltered workshop has to be only a part of the continuum providing training suitable to client needs and individualized programming. This viewpoint is widely supported in the research literature (Bradley & Warrenfeltz, 1981; Brown & Clarke, 1981; Harshman, 1978; Hill, Wehman & Kochany, 1979; Maurab & Elder, 1979; Rusch & Mithaug, 1980; Schalock & Harper, 1978; Sowers, Thompson & Connais, 1979; Wehman & Hill, 1981). The feasibility of this development was questioned for rural areas and it was emphasized that in most communities we have not reached the sheltered workshop stage. These uncertainties surrounding feasibility also arose with the panel's prediction that the successful adjustment of trainable mentally retarded people in this province will have required the implementation of a comprehensive continuum of vocational services (item 21: D Mdn. 3.9, F Mdn. 2.9). However, as several panelists pointed out, the matching of client needs and abilities would be very positive. Others stressed that although funding will be a major key with some programs costing \$100,000 per unit, other programs are much less expensive. In the words of one panelist, "If people can be

made productive the cost of programs will no longer be a major factor."

The panel is unanimous in predicting that by 1995 vocational programming for trainable mentally retarded people will be based on full scale assessments and not predicated on medical diagnosis solely (item 14: D Mdn. 4.0, F Mdn. 3.1). Although the panel viewed this as feasible, some members questioned its practicality for rural areas. In spite of the difficulties involved in serving such areas, full scale assessments are essential to effective service delivery (Riggar, 1979; Bernstein, 1979; Faulkner, 1979; Grantham, 1976; Katz, 1974).

The panel also viewed as highly desirable the implementation of a progressive educational/developmental service network, involving elementary and secondary schools (item 6: D Mdn. 3.9, F Mdn. 2.9). Many panelists were hopeful that with positive future developments, such services would represent some of the benefits, i.e. improved economic conditions will speed up and improve services. Some stressed that we are moving in this direction by developing in the present continuum of educational and vocational services. The literature is replete with articles supporting the development of such a network (Clarke, 1980, Beane & Zachmanoglow, 1979, Brolin & Kokaska, 1979, Legget, 1978; Stodden, 1977; Kolstoe, 1976; Brolin, 1976). However, other panelists were less confident, pointing out that many developments are unpredictable, i.e. the economic boom.

According to the panel, by 1995 community groups in this province will have become extensively involved with government in the initiation, development and implementation of policies and services (item 27: D Mdn. 3.8, F Mdn. 3.2). The panel considered this to be highly desirable and feasible; however, there was considerable discussion surrounding feasibility. The statistically significant (at .01 and .05) quartile difference score of 0.9 on the feasibility scale (see Table 9) points to a certain amount of disagreement on the part of the panel. It was pointed out that community groups have been involved with mentally retarded people for a long time and that policies development and implementation should include input from this grass roots level. Some panelists questioned the feasibility of this, stating that through past performance, community groups have perpetuated dependence and a patronizing status to handicapped people. Several panel members reacted to this by insisting that there has to be a balance, and that government will profit from the involvement of both community groups and professionals.

There will be a clearer understanding by parents, professionals, and employers regarding the employability of trainable mentally retarded people in this province by 1995, according to the panel (item 28: D Mdn. 4.0, F Mdn. 3.2). The panel was unanimous in considering this to be highly desirable. They also considered this to be quite feasible, with adequate public education and good leadership.

(B) Patterns of Vocational Services

All of the items in this category (see Table 10) are viewed by the panel as highly desirable (medians ranging from 3.8 - 4.0) and possibly feasible (medians ranging from 2.7 - 3.0).

The panel predicted that school-based vocational education programs will become an integral part of the programming for trainable mentally retarded students by 1995 (item 7: D Mdn. 4.0, F Mdn. 3.0). Although this is already happening, or starting to happen, in many areas, some of the panelists stressed that there are many sociological and economic factors that work against its becoming an integral part of programming, especially in rural areas. Other panelists pointed out that there are already indications that such programs are feasible, even in rural areas, i.e. farming, fishing and other work related activities. Regardless of the location, the goals of special education must include maximum emphasis upon training for satisfactory work adjustment (Merachnik (1972). Lombard (1978), Cegielka (1977) and Gibson & Lazor (1977) all report on successful school-based programs that supply a variety of work adjustment activities to such students.

According to the panel, by 1995 this province's vocational schools will have introduced or modified training programs to include programming for trainable mentally retarded students (item 8: D Mdn. 3.9, F Mdn. 2.9). Many of the panelists indicated that the feasibility of this event will be largely determined by economic conditions and the provision of educational

Table 10

Desirability and Feasibility of Items Related to  
the Patterns of Vocational Services

| Ques. | Desirability |         |       |     | % | $\alpha$ | Feasibility |         |       |    | % | $\alpha$ |
|-------|--------------|---------|-------|-----|---|----------|-------------|---------|-------|----|---|----------|
|       | Median       | IQR     | Q3-Q1 |     |   |          | Median      | IQR     | Q3-Q1 |    |   |          |
| 7.    | 4.0          | 3.8-4.0 | .2    | 97  |   |          | 3.0         | 2.8-3.2 | .4    | 69 |   |          |
| 8.    | 3.9          | 3.9-4.0 | .1    | 84  |   |          | 2.9         | 2.8-3.1 | .3    | 75 |   |          |
| 12.   | 4.0          | 3.9-4.0 | .1    | 97  |   |          | 3.0         | 2.9-3.2 | .3    | 84 |   |          |
| 13.   | 4.0          | 3.9-4.0 | .1    | 97  |   |          | 2.8         | 2.8-3.1 | .3    | 78 |   |          |
| 17.   | 4.0          | 3.9-4.0 | .1    | 97  |   |          | 3.0         | 2.9-3.2 | .3    | 84 |   |          |
| 19.   | 4.0          | 3.9-4.0 | .1    | 97  |   |          | 2.8         | 2.8-3.1 | .3    | 81 |   |          |
| 20.   | 4.0          | 3.9-4.0 | .1    | 100 |   |          | 3.0         | 2.8-3.1 | .3    | 84 |   |          |
| *22.  | 4.0          | 3.9-4.0 | .1    | 100 |   |          | 2.8         | 2.6-3.1 | .5    | 72 | * |          |
| *23.  | 3.9          | 3.9-4.0 | .1    | 91  |   |          | 2.8         | 2.6-3.1 | .5    | 81 | * |          |
| 24.   | 3.9          | 3.8-4.0 | .2    | 90  |   |          | 3.0         | 2.8-3.2 | .4    | 67 |   |          |
| 26.   | 3.8          | 3.8-4.0 | .2    | 84  |   |          | 2.8         | 2.8-3.1 | .3    | 77 |   |          |
| *35.  | 3.9          | 3.8-4.0 | .2    | 90  |   |          | 2.7         | 2.4-3.1 | .7    | 77 | * |          |

\* Statistically significant at .01



programs for resource people, parents and the general public. Others argued that vocational schools are out of reach for such students. Clearly what is needed are cooperative efforts between vocational and special education so that each of these disciplines can help develop the mentally retarded students' career potential (Sitlington, 1981). Furthermore, vocational schools may need to modify their programs and admission requirements to accommodate trainable mentally retarded people (Closer Watch, 1978; Brolin, 1976; Du Rand & Neufeldt, 1975).

In the panel's view, specific program components will be developed in this province by 1995 to help mentally retarded people come in contact with and make use of the various vocational services that are available (item 12: D Mdn. 4.0, F Mdn. 3.0). Although some panel members pointed out that this is already starting to happen, and that training selection committees are presently being formed, others insisted that this would not be applicable to rural areas.

Community-based vocational training programs will, according to the panelists, be extensively developed in this province by 1995 (item 13: D Mdn. 4.0, F Mdn. 2.8). In general, the panel viewed this event as possibly feasible, stating that it would be very difficult to serve rural areas with the limited funds available. Some pointed out that, although future developments will be affected by improved resources, programs such as the Work Oriented Rehabilitation Center have already proven successful and should be further developed and coordinated with other programs. This echoes

the findings of the Exon House Study Report (1977), which emphasized the need for service delivery and coordination at local and regional levels to enable the development of a broad variety of vocational and work training opportunities across the Province.

The panelists further predicted that on-site training in business and industry will become established in this province as a basis for such training and placement (item 24: D Mdn. 3.9, F Mdn. 3.0). The feasibility of this was questioned because of the attitudes of business and industry, as well as the employment situation. However, as other panelists pointed out, this is already starting to happen, and an improved labour market as well as education programs for employers should allow the acceptance of such people into the regular work environment. Education programs for employers, as well as the general public, also appear to be central to the acceptance of a number of employment principles for mentally retarded people (item 26: D Mdn. 3.8, F Mdn. 2.8). Although the panel agreed that accepting these principles will be essential to the success of work placements, they further pointed out that the feasibility of this will be largely determined by employer attitudes and priorities, as well as the employment situation.

The panel also concurred that specific program components will be developed in this province to help mentally retarded people maintain themselves in a self-enhancing work life (item 20: D Mdn. 4.0, F Mdn. 3.0). They concluded that although this is highly desirable, the feasibility will be largely determined

by the availability of funds and more involvement on the part of both the Provincial and Federal governments. Increased Federal involvement appears to be in the planning stages. The Obstacles Report, which was completed by a Special Parliamentary Committee on the Disabled and Handicapped in 1981, outlined twenty recommendations regarding the employment of disabled persons that call for legislative, fiscal and organizational initiatives on the part of the Federal government. Federal involvement also appears to be central to the feasibility of providing a range of employment options so that work placements can be made which are appropriate to the degree of independence that a given individual demonstrates (item 22: D Mdn. 4.0, F Mdn. 2.8). The panel viewed the provision of these options as highly desirable, but questioned its feasibility for the whole province. The quartile difference score of 0.5 on the Feasibility Scale being statistically significant at .01 and .05 (see Table 8) points to the panel's uncertainty regarding the feasibility of this development. Some panelists stressed that vocational training is useless unless appropriate employment options are provided. Others pointed out that if we are to serve the province as a whole, then a great deal will depend on factors such as economic conditions, the employment situation and the attitudes of potential employers. Several reacted to this by calling for more federal involvement and cost-shared inputs, as well as private sector inputs.

Vocational service delivery, according to the panelists, will allow placement and movement among a variety of services by 1995 (item 23: D Mdn. 3.9, F Mdn. 2.8). Although the panel viewed this development as very desirable, the statistically significant (at .01 and .05) quartile difference score of 0.5 on the Feasibility scale (see Table 8) indicates a certain amount of panel uncertainty regarding its feasibility. Some panelists questioned the feasibility because of the present lack of services and the need for a continuum of services. Others emphasized that such placement and movement should have as a priority the use of existing places of employment and training. They argued that integration and coordination of services will lead to more effective service delivery.

According to the panel, the number of trainable mentally retarded people remaining in their own homes and communities by 1995 will have increased, because such settings will have received assistance from government programs (item 17: D Mdn. 4.0, F Mdn. 3.0). The panel viewed this as very desirable, but only possibly feasible because of economic conditions and public attitudes and priorities. Some panelists indicated that we have seen immense improvements in this area since 1977. The decrease in the population of institutions such as Exon House and the increase in the numbers living in community arrangements, i.e. group homes, apartments, is one clear indication that this is starting to happen. Such community-based residential services will, according to the panel, operate in conjunction with vocational services by 1995 (item 19: D Mdn. 4.0, F Mdn. 2.8).

The panel considered this to be very desirable but were less optimistic regarding its feasibility. They pointed out that, although this is already starting to happen in some larger centers, it would be very difficult to adequately serve rural areas; many services would have to be regional-based, as opposed to community-based, requiring significant levels of cooperation and coordination.

The panel further predicted that by 1995 programs and facilities for trainable mentally retarded people in this province will be fully integrated into the community and include functional, societal, personal and organizational integration (item 35: D Mdn. 3.9, F Mdn. 2.7). The panelists agreed that this was a very desirable concept; however, they seriously questioned its feasibility. The statistically significant (at .01 and .05) quartile difference score of 0.7 on the Feasibility scale (see Table 8) points to the panel's uncertainty. Some members stated that this was highly idealistic for all trainable mentally retarded people and that public and political realities will be major factors. Others indicated, however, that we are already moving in this direction, i.e. integrated education programs.

#### (C) Service Provider Considerations

The medians of items in this category (see Table 11) ranged from 2.9 - 4.0 on the Desirability scale and 2.2 - 3.1 on the Feasibility scale. With the removal of item 31: D Mdn.

Table 11

Desirability and Feasibility of Items Related to  
Service Provider Considerations

| Ques. | Desirability |         |       |    |   | Feasibility |         |       |    |          |
|-------|--------------|---------|-------|----|---|-------------|---------|-------|----|----------|
|       | Median       | IQR     | Q3-Q1 | %  |   | Median      | IQR     | Q3-Q1 | %  | $\alpha$ |
| 26    | 3.9          | 3.8-4.0 | .2    | 94 |   | 2.9         | 2.8-3.1 | .3    | 84 |          |
| 29    | 4.0          | 3.9-4.0 | .1    | 97 |   | 3.1         | 2.9-3.2 | .3    | 72 |          |
| 30    | 4.0          | 3.9-4.0 | .1    | 97 |   | 3.1         | 2.9-3.2 | .3    | 84 |          |
| *31   | 2.9          | 2.8-3.2 | .4    | 55 | * | 2.2         | 1.9-2.6 | .7    | 80 | *        |
| 32    | 3.9          | 3.9-4.0 | .1    | 84 |   | 2.9         | 2.8-3.1 | .3    | 78 |          |
| 33    | 3.9          | 3.9-4.0 | .1    | 88 |   | 3.1         | 2.9-3.2 | .3    | 88 |          |
| *34   | 3.9          | 3.8-4.0 | .2    | 90 |   | 3.0         | 2.9-3.1 | .2    | 81 | *        |

\* = Statistically significant at .01



2.9, F Mdn. 2.2, the median ranges narrow to 3.9 - 4.0 on the Desirability scale and 2.9 - 3.1 on the Feasibility scale.

Although the panelists viewed service providers assuming responsibility for every individual's life career development (item 34: D Mdn. 2.9, F Mdn. 2.2) as desirable, they further pointed out that it was possibly not feasible. The statistically significant (at .01 and .05) quartile difference scores of 0.4 on the Desirability scale and 0.7 on the Feasibility scale (see Table 11), in addition to the relatively low median scores, indicate the panel's difficulty in accepting this concept. Several panelists stated that although there should be more systematic client monitoring, as well as increased responsibility assumed by service providers, service providers should not assume total responsibility. Others indicated that the focus must be placed on developing abilities in people and that we must be careful not to stifle the independence we are trying to provide. In the words of one panel member, "This should be exercised only to the extent the individual requires help to function independently, otherwise there may be an unwarranted intrusion on the individual's rights." In essence, the panel agreed that this was a desirable concept that must be clarified and explored more fully.

The panel was almost unanimous in its prediction that by 1995 service providers and planners in this province will have adopted a systems approach to service delivery (item 34: D Mdn. 3.9, F Mdn. 3.0). They concluded that this was a very desirable concept that was possibly feasible. It was emphasized that the

feasibility would be very dependent on the cooperation and coordination of all segments of the service delivery system, as well as direction given from the "top". It was further pointed out that reports, such as the Exon House Report, have recommended the implementation of such a team approach.

Total service planning, according to the panel, will have become incumbent upon service providers in this province by 1995 (item 25: D Mdn.3.9, F Mdn.2.9). Many of the panel members stressed that in order for this to take place there would have to be significant improvement in the degree of cooperation and coordination between agencies. Others added that before total service planning can take place, appropriate services have to be in place.

The panel further pointed out that by 1995 service providers in this province will have been required to develop individualized programs in education, rehabilitation, and other settings to meet the needs of their clients (item 32: D Mdn.3.9, F Mdn.2.9). They considered this development to be very desirable but further indicated that its feasibility would be very much determined by the provision of services and the resources available. Others emphasized that there is a great need for in-service training, as well as increased provincial and federal involvement. As one panelist pointed out, "The provision of comprehensive individual services is the key."

According to the panel, by 1995 service providers and planners in this province will have been required to establish standards for the various community-based vocational services

(item 29: D Mdn 4.0, F Mdn 3.1). They viewed the establishment of such standards as highly desirable and feasible. All of the panel considered the establishment of standards as positive. Some cautioned that standards should be developed before the services are initiated so that the issue of quality can be addressed throughout.

The importance of improved coordination and cooperation between services and service providers, as alluded to in the discussion of many of the earlier items, is evident in the panel's prediction that by 1995 both provincial and federal governments will have been required to define and explore methods and strategies to obtain the coordination of services and professionals (item 30: D Mdn 4.0, F Mdn 3.1). As pointed out by many of the panelists, this is not a major undertaking and it is absolutely essential to the provision of appropriate services. Some panelists were doubtful that such coordination would be realized because of the 'one-mindedness' of many agencies. However, as one panelist points out, "A well-defined scheme is required to make it work."

The panelists also concluded that by 1995 both federal and provincial governments will have been required to define and explore methods to improve the accountability of service providers (item 33: D Mdn 3.9, F Mdn 3.1). The feasibility of this item appeared to rest largely with input from advocate and consumer groups, as well as the government. It was pointed out that services cannot exist in a vacuum; therefore, some method of accountability, which involves consumer and advocate

groups, must be developed. It was further pointed out that such defining and exploring of methods will be ultimately more feasible than actual service delivery.

(D) Financial and Legal Considerations

The three items in this category (see Table 12) are considered by the panel to be very desirable and possibly feasible (medians ranging from 3.9 - 4.0 on the Desirability scale and 2.9 - 3.1 on the Feasibility scale).

Improved economic conditions, according to the panelists, will have had an impact on service delivery in this province by 1995 (item 11: D Mdn. 4.0, F Mdn. 2.9). They were unanimous in considering this to be very desirable; however, they were less optimistic that conditions would improve. Many were hopeful that the impending oil boom would create positive economic conditions that would enhance the development of services, but others emphasized that conditions were not likely to improve significantly because of the oil boom. They emphasized that there would be great competition for funds, as well as negative socio-economic effects.

Although viewed as very desirable, the feasibility of eventual full financial government coverage for vocational services by 1995 was questioned by the panel (item 16: D Mdn. 3.9, F Mdn. 2.9). Although some members were confident that full financial coverage would lead to the best possible level of services, others were concerned that because those who fund

Table 12

Desirability and Feasibility of Items Related to  
Financial and Legal Considerations

| Ques. | Desirability |         |       |     | Feasibility |         |       |    |
|-------|--------------|---------|-------|-----|-------------|---------|-------|----|
|       | Median       | IQR     | Q3-Q1 | %   | Median      | IQR     | Q3-Q1 | %  |
| 11.   | 4.0          | 3.9-4.0 | .1    | 100 | 2.9         | 2.8-3.1 | .3    | 72 |
| 15.   | 3.9          | 3.9-4.0 | .1    | 84  | 3.1         | 2.9-3.2 | .3    | 81 |
| 16.   | 3.9          | 3.8-4.0 | .2    | 88  | 2.9         | 2.8-3.1 | .3    | 78 |

the services make the decisions, there would be little community involvement and input. They were further concerned that this would become only another form of financial dependence for mentally retarded people.

The impact of efforts to insure the legal rights of mentally retarded persons is evident in the panel's prediction that both provincial and federal governments will have been required to improve and enforce regulations, acts and agreements to provide vocational services for trainable mentally people (item 15: D Mdn. 3.9, F Mdn. 2.9). The panel considered this to be a very desirable development that was possibly feasible. Several panel members stressed that although it will be relatively easy to change regulations, attitudes will be a long time changing. Others pointed out that public attitudes are changing and will continue to change. The recognition of the rights of all handicapped and disabled persons, as indicated in the newly proclaimed Constitution, is one more step in this direction.

The results of this Delphi study have been presented and discussed in this chapter. On the basis of this discussion, as well as a research of the literature, Chapter V will present the conclusions and recommendations of this study.



## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

#### Introduction

The results and the discussion of the results, as indicated in Chapter IV, have certain implications for future vocational service delivery in this province. This chapter presents the conclusions of this Delphi study as well as recommendations for implementation and further study.

#### Conclusions

The Delphi panel was very consistent in its predictions of major trends and developments in the field of vocational services for mentally retarded people.

Their predictions consistently support implementation of the developmental model and the normalization principle. Both of these principles are further reflected in anticipated programming developments as predicted by the panel. The panelists supported the implementation of a comprehensive continuum of vocational services and a progressive educational/developmental service network that would involve elementary, secondary and vocational schools. They predicted that school-based vocational education programs, i.e. work study, work experience, will become an integral part of programming for such students and

that vocational schools will also have developed appropriate programming.

The panel advocated the development of a variety of community-based vocational training and employment programs to include on-site training in business and industry, the provision of a range of employment options, and the development of other specific program components to assist mentally retarded people to come in contact with available services or to maintain themselves in a self-enhancing work life. They further concluded that such programming should be based on full scale assessments, allow placement and movement among a variety of vocational services and operate in conjunction with residential services. These conclusions are also quite consistent with the panel's prediction that programs and facilities for mentally retarded people will become integrated into the community, resulting in larger numbers of such people remaining in their own homes and communities. The increased emphasis on community involvement and participation is further evident in the panel's prediction that community groups will become extensively involved with government in the initiation, development and implementation of policies and service. Coincidentally with this development, the panel also concluded that there will be clearer understanding by parents, professionals and employers regarding the employability of trainable mentally retarded people.

Although the panel strongly supported the development of vocational services that would minimize the degree of handicap

of trainable mentally retarded people and open up many of life's options to them, they did not clearly favor service providers accepting responsibility for such people's life career development. They agreed that service providers should accept more responsibility but not total responsibility.

The panel was very consistent in its other predictions regarding trends and developments that related to service providers. They concluded that service providers will have adopted a systems approach to service delivery and that this approach will include the establishment of standards for the various services, total service planning and individualized programming. They also predicted that both Federal and Provincial governments will have defined and explored strategies and methods to obtain the cooperation and coordination of service providers and to improve their accountability.

The panel's prediction of improved economic conditions by 1995 is also consistent with their prediction of increased government funding to provide vocational services to trainable mentally retarded people. Such services, according to the panel, will be provided to these people because governments will have been required to insure their legal rights.

#### Recommendations for Implementation

1. That the emphasis of new service development be placed on the provision of comprehensive community-based services.

2. That because integration and coordination of services lead to more effective service delivery, new services be integrated and coordinated with those presently in place.
3. That, where possible, the vocational needs of mentally retarded people be met through "general" community services.
4. That the placement of any individual in a program/service be based on the degree of independence that the individual demonstrates.
5. That all individuals requiring services be given full scale assessments.
6. That center-based services be encouraged to supply a continuum of services within their program.
7. That because of the varying needs and abilities of mentally retarded people, community-based services with a center-based program be allowed considerable flexibility in carrying out their program.
8. That because multiple paths are possible to the attainment of goals, and the most effective service for one area is not necessarily the most effective elsewhere, considerable flexibility be allowed in the delivery of services.
9. That maximum use be made of existing resources in the present ~~cont~~ continuum of services, i.e. employment and training facilities, professionals.

10. That because of the rural nature of Newfoundland and Labrador, regional services be developed where it is not feasible to develop local or community services.
11. That residential facilities be provided in conjunction with regional-based vocational services.
12. That methods and strategies be defined and explored to facilitate the interaction of community-based services with school programs.
13. That school-based programming be carried out in a more real-life learning environment with relevant experiences provided throughout the program.
14. That the emphasis of school-based programming be placed on career awareness, career exploration and skill development at all levels.
15. That the primary focus of secondary school programs be placed on work training and life skills, as opposed to an emphasis on academics.
16. That, where possible, such work training be carried out in the community.
17. That the Department of Education develop appropriate vocational training programs for trainable mentally retarded students in the vocational schools.
18. That the Department of Education extend the school-leaving age for mentally retarded students.

19. That the Department of Education and Memorial University require all students involved in teacher training to complete a minimum number of special education courses.
20. That the Department of Education reassess its spending priorities for special needs individuals to redirect funds to community-oriented work training programs.
21. That the Provincial and Federal governments become more involved with the financing and programming of vocational services.
22. That the Provincial and Federal governments reassess their spending priorities to redirect funds to non-custodial programs and services.
23. That governments carry out major public education programs to educate parents, employers and the general public about the rights, needs, and abilities of mentally retarded people.
24. That governments develop future policy for the development of vocational services, including a comprehensive plan for the implementation and operation of community-based vocational services.
25. That clear responsibilities be assigned for the development of future programs and services.
26. That both governments reassess their involvement as employers in community-based training programs and become



more involved in providing on-site training.

27. That governments require employers under their jurisdiction to provide a certain amount of vocational training or employment opportunities for mentally retarded people.
28. That governments purchase more articles and supplies that are produced in workshops, training centers, or by other self-help efforts.
29. That government increase its support to businesses and industry to train mentally retarded people.
30. That governments work more closely with the private sector in providing vocational training programs and employment opportunities.
31. That governments become more involved in the provision of employment opportunities for mentally retarded people.
32. That a well-defined scheme be outlined to attain the co-operation and coordination of services and service providers.
33. That strategies and methods be defined and explored to attain the cooperation and coordination of service providers.
34. That strategies and methods be defined and explored to improve the accountability of service providers.

35. That the roles of the various service providers be clearly established so that responsibilities can be assigned more effectively.
36. That service providers be responsible for individualized programming and total service planning.
37. That service providers be required to establish standards for the various vocational services.
38. That the training of all service providers include sections on individualized programming, total service planning and a systems approach to service delivery.
39. That because there will be great competition for funds, a liaison committee consisting of service providers representing the various departments and organizations be established to regularly communicate with government, as well as other involved groups.
40. That means, strategies and methods be explored to obtain the cooperation and involvement of community groups.

#### Recommendations for Further Study

41. That because cooperation is a prerequisite to coordination, and coordination is essential to effective service delivery, further study be given to strategies and means to gain the cooperation of all service providers.

42. That because of the predominant rural nature of Newfoundland and Labrador, further study be given to determining the most feasible method of implementing services on a province wide basis.

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## APPENDICES

APPENDIX A  
INITIAL LETTER TO PARTICIPANTS

Delphi Study  
P.O. Box 375  
Gander, Newfoundland  
September 15, 1981

Dear Sir/Madam

A new attitude toward future-planning is evolving in various sectors of our society. This attitude indicates that future-planning, based on the informed and intuitive judgements of knowledgeable individuals about the future, may enable us to exert considerable influence over the future and to give it direction rather than just letting it happen. Data from a large number of future-oriented studies suggest that meaningful future-planning can result when experts in a discipline determine together what should happen to that discipline in the future and how to achieve this desired future status.

I am currently undertaking a future-planning study which is designed to identify viable future directions in the field of vocational services for trainable mentally retarded people in Newfoundland and Labrador. The study uses a future-oriented research method, the Delphi technique, which was designed to obtain expert opinion on a given topic through a series of questionnaires interspersed with informative feedback and to produce carefully considered group judgements about the future.

Because of your employment in the field of special education/rehabilitation, you are considered to be knowledgeable of its various aspects such as programming, needs, problems, concerns, considerations, etc. I am requesting your knowledgeable assistance toward the identification of viable future directions and policies in vocational services for trainable mentally retarded people in this province by asking you to participate in this study. Furthermore, because participants for this research study have been selected by professional occupation and purposely limited in order to use the Delphi technique most effectively, I hope that you will consent to become a participant.

The procedure which I will follow in using the Delphi Technique takes place in three basic phases:

1. First, I am enclosing the first round questionnaire which suggests a number of future directions in the field. You are asked to rate each item/statement on two scales and encouraged to comment on the same.
2. Secondly, I will send you a second-round questionnaire which will report for each suggested future direction your original rating and a group rating in the form of a median score. I will ask you to consider the data and to reconsider your original rating which you may wish to change after learning the group judgement. You are also encouraged to comment. If your response is significantly different from that of the group (the median) and you do not wish to alter it, you are also encouraged to supply reasons for this stand.
3. Lastly, I will send a third-round questionnaire which will report the data from round two together with (1) a summary statement of reasons from those whose ratings were significantly different from the group (for each item) and (2) a summary statement of representative comments from those whose ratings were not significantly different from the group rating. I will ask you to review the data as well as the comments and reasons and to revise any rating which you may wish to change.

Further information and instructions are included with the questionnaire.

Thank you for your time and co-operation.

Sincerely,

Charles R. Hillier  
Project Coordinator

Dr. Lee Klas  
Project Supervisor

APPENDIX B  
LETTERS OF ENDORSEMENT



## GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

## Department of Social Services

St. John's

1981 08 31

I have been approached by Charles R. Hillier regarding a thesis research study he is undertaking as a requirement towards a Master's degree in Education (Educational Psychology). The topic of his research study is "Future Directions of Vocational Services for Trainable Mentally Retarded People in Newfoundland and Labrador".

The Department attaches importance to study in this area especially at this point in the development of vocational services for mentally retarded people. The study, we believe, will provide useful information in planning for such services.

Mr. Hillier will likely be in touch with you as his research proceeds. I would ask you to co-operate with him to the fullest extent possible.

Yours sincerely,

GILBERT PIKE  
Deputy Minister

Employment and  
Immigration Canada

Emploi et  
Immigration Canada

Your file Votre référence

our file Notre référence

6165-1

167 Kenmount Road  
P.O. Box 12051  
St. John's, Nfld.  
A1B 3Z4

October 1, 1981

Mr. Charles R. Hillier  
Project Co-ordinator  
Delphi Study  
P.O. Box 375  
Gander, Newfoundland  
A1V 1T5

Dear Mr. Hillier:

Further to our recent correspondence, this is to advise that we have reviewed your questionnaire and consider it to be excellent for research purposes in future-planning. This study should prove to be of great potential value to our Commission and we fully concur with your endeavours.

There does not appear to be any need for additions or changes in your draft letter and it is suggested that you write direct to the Managers of the Canada Employment Centres, who will pass your request directly to their individually designated Special Needs Counsellors for action.

Attached is a list of Canada Employment Centres and Branch Offices, which we hope will be useful to you.

Your truly,

G. J. Everard  
Director-General  
Newfoundland Region

Attachment



GOVERNMENT OF NEWFOUNDLAND AND LABRADOR  
DEPARTMENT OF EDUCATION

P.O. BOX 4750  
ST. JOHN'S, NFLD.  
A1C 5T7

Dear

Charles R. Hillier is engaged in graduate research at Memorial University. His topic, Future Directions of Vocational Services for Mentally Retarded People in Newfoundland and Labrador, is of potential value to our Department.

Mr. Hillier's study might well provide data which could be useful for planning purposes and to this end, your cooperation with his study earnestly solicited.

---

M. Steer, Ph.D.  
Director  
Special Education

APPENDIX C

ROUND ONE INSTRUCTIONS



## DELPHI STUDY

## ROUND ONE

Your code \_\_\_\_\_

guarantees anonymity.

Return Date October 23, 1981

## Instructions:

You have been asked to participate in a relatively new approach to future policy analyses - a Delphi exercise. In this exercise a series of questionnaires are given to a group of expert respondents to determine the group's views on a particular topic. In this instance, the topic is Future Directions in the Field of Vocational Services for Trainable Mentally Retarded People in Newfoundland and Labrador. For the purposes of this study, the future is deemed to be ten to fifteen years hence (1990-1995).

The respondent group for this research is small, certainly not random, selected, and in some ways non-representative of the general population. It consists of special education supervisors, regional social service directors, rehabilitation counselors, special needs counselors, program coordinators and other professional people involved in the field. The total number of respondents is approximately sixty (60).

You should discard all traditional theories and approaches to surveys and questionnaires when participating in this exercise. It is not designed as a short answer "quickie" questionnaire. We are interested in involving you, not only in thinking about the items and commenting on them, but also in formulating new items and exploring new alternatives. The time required to complete this questionnaire is not great, i.e. one to two hours at approximately four week intervals - September 30th, October 30th and November 27th, 1981.

The Delphi approach is cumulative. Its first round is largely explorative in which you are asked to respond to a number of items/statements. The statements are considered to be indicative of future developments in your field of expertise; however, you are encouraged to open up new areas of thought. As the second and third rounds progress the areas are narrowed and the group view begins to emerge. After each round a data summary from the respondents is fed back to all participants for their appraisal.

All necessary steps will be taken to ensure your anonymity and that of the other participants. Under no circumstances will you be cited or quoted. You are personally assured of absolute confidentiality.

## DELPHI STUDY

## ROUND ONE

Your code \_\_\_\_\_

Return date October 23, 1981Specific Instructions for this Questionnaire:

- (1) You have been provided with two copies of the Delphi questionnaire. Please complete both copies. Return only one to me. The other should be kept for your reference in succeeding questionnaires. For the purposes of this study you will be identified by the code name assigned to you above.
- (2) Please return your response as soon as possible, i.e. if possible, within seven days after the questionnaire reaches you. A stamped return-addressed envelope is enclosed for this purpose. You should expect to receive three questionnaires - one for each complete exercise plus one copy for your records.
- (3) As a respondent you have the following option with respect to each question:
  - (a) You may choose not to respond to a statement if you feel your judgement would be "risky," "unreliable" or "you don't know."
  - (b) You may choose to rewrite a particular item/statement and respond to your version if you feel the original is misleading.
  - (c) You may suggest additional statements, items or topics you would like to see in the next questionnaire if you feel that they would clarify an issue or raise a new alternative that the group should consider.
  - (d) You may consult with associates on specific items in the questionnaire or use other information sources; however, you should respond as an individual and not as a spokesman for a particular group.
  - (e) You may, and are encouraged to express short arguments or comments on any judgement or response about which you feel confident. This may include information about items that lead you to this judgement.
- (4) You are asked to begin the exercise by first providing background information regarding your occupation, education,



work experience, involvement with trainable mentally retarded people and expertise in the field of vocational services for such people. You are asked to respond to each item with regard to two scales as follows:

Scale 1

Desirability (Effectiveness or Benefits)

| Rating | Level                 | Description  |
|--------|-----------------------|--|
| 1      | Extremely Undesirable | will have a major negative effect<br>extremely harmful<br>not justifiable                              |
| 2      | Undesirable           | will have a negative effect<br>harmful<br>justifiable only as a by-product<br>of a very desirable item |
| 3      | Desirable             | will have a positive effect<br>beneficial<br>justifiable in conjunction with<br>other factors          |
| 4      | Extremely Desirable   | will have a major positive effect<br>extremely beneficial<br>justifiable on its own merits             |

Scale 2

## Feasibility (Practicality)

| Rating | Level                    | Description  |
|--------|--------------------------|--|
| 1      | Definitely<br>Unfeasible | all indications are negative<br>unworkable<br>cannot be implemented  |
| 2      | Possibly<br>Unfeasible   | some indications are negative<br>some indications are workable<br>significant unanswered questions   |
| 3      | Possibly<br>Feasible     | some indications this is<br>implementable<br>some research and development<br>still required<br>further consideration or<br>preparation to be given to<br>political or public reaction |
| 4      | Definitely<br>Feasible   | no hindrance to implementation<br>no research and development<br>required<br>no political roadblocks<br>acceptable to the public   |

The above scales use an ordinal scale from which one value can be chosen to indicate your view of desirability/feasibility. Low numbers are used to express a low degree of desirability/feasibility while high numbers are used to express high degree of desirability/feasibility. For each item and each scale you are to circle the number which nearest represents your judgement/view. You are also urged to keep the above scales in mind when suggesting alternate or additional items for consideration by the group.

APPENDIX D

ROUND ONE QUESTIONNAIRE

DELPHI STUDY  
ROUND ONE

Your code \_\_\_\_\_

Return date October 23, 1981

Questionnaire:

1. Your occupation is (please circle one)
  - a. special education/services supervisor
  - b. director
  - c. program co-ordinator/manager
  - d. rehabilitation counselor
  - e. special needs counselor
  
2. Your academic or educational background is (please circle one)

| Grade<br>XI | Post secondary |   |   |   |   |   |   |
|-------------|----------------|---|---|---|---|---|---|
|             | 1              | 2 | 3 | 4 | 5 | 6 | 7 |

number of years

Training, education and courses completed

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3. Your work experience in special education/rehabilitation is (please circle one):

|   |   |   |   |      |              |
|---|---|---|---|------|--------------|
| 1 | 2 | 3 | 4 | 5-10 | more than 10 |
|---|---|---|---|------|--------------|

4. You are professionally involved with how many trainable mentally retarded people (please circle one)?

|      |       |       |        |      |
|------|-------|-------|--------|------|
| 1-10 | 11-20 | 21-50 | 51-100 | 100+ |
|------|-------|-------|--------|------|

5. Your self rating of your expertise in the field of vocational services for trainable mentally retarded people is

|     |   |      |   |
|-----|---|------|---|
| 1   | 2 | 3    | 4 |
| low |   | high |   |

The remaining items are related to the future implementation of vocational services models in Newfoundland and Labrador, the patterns of such services and legal and fiscal considerations. Refer to Scales 1 and 2 (pp. 5-6) for a description of ratings 1-4 on the following items. You may write on the back of these sheets, or on separate sheets, if the space provided is not sufficient.

6. A progressive educational/developmental service network involving elementary and secondary schools will have become more firmly and widely established in this province by 1995.

|              |   |   |   |             |   |   |   |
|--------------|---|---|---|-------------|---|---|---|
| 1            | 2 | 3 | 4 | 1           | 2 | 3 | 4 |
| low          |   |   |   | high        |   |   |   |
| Desirability |   |   |   | Feasibility |   |   |   |

Your comment:

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7. School based vocational education programs, e.g. work experience will have become more firmly and widely established in our province by 1995.

1      2      3      4  
 |-----|  
 low   Desirability   high

1      2      3      4  
 |-----|  
 low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Our provincial vocational schools will have implemented and/or modified training programs to include trainable mentally retarded people by 1995.

1      2      3      4  
 |-----|  
 low   Desirability   high

1      2      3      4  
 |-----|  
 low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. The principle of Normalization ('utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics, which are as culturally normative as possible') will have become widely established and accepted by service



providers as an important rule of thumb in vocational service delivery in this province by 1995.

1 2 3 4 1 2 3 4  
 low Desirability high low Feasibility high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

10. By 1995 the developmental model (every person has the capacity to learn, to grow and to develop) will be extensively used in this province emphasizing education, training and adjustment skills for those mentally retarded persons receiving vocational services.

1 2 3 4 1 2 3 4  
 low Desirability high low Feasibility high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. More positive economic conditions will have had an impact on service delivery in this province by 1995.

1 2 3 4 1 2 3 4  
 low Desirability high low Feasibility high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. Specific program components, e.g. trainee recruitment, selection processing, will have been developed in this province by 1995 to help mentally retarded individuals come in contact with and learn to make use of the various vocational services that are available.

|       |              |   |      |  |       |             |   |      |
|-------|--------------|---|------|--|-------|-------------|---|------|
| 1     | 2            | 3 | 4    |  | 1     | 2           | 3 | 4    |
| ----- |              |   |      |  | ----- |             |   |      |
| low   | Desirability |   | high |  | low   | Feasibility |   | high |

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. Community-based vocational training programs (which prepare an individual for work placement) will have become more firmly and widely established in this province by 1995 (e.g. pre-vocational training, vocational exploration, skill training, work adjustment training, personal adjustment training, and vocational evaluation).

|       |              |   |      |  |       |             |   |      |
|-------|--------------|---|------|--|-------|-------------|---|------|
| 1     | 2            | 3 | 4    |  | 1     | 2           | 3 | 4    |
| ----- |              |   |      |  | ----- |             |   |      |
| low   | Desirability |   | high |  | low   | Feasibility |   | high |

Your comment: \_\_\_\_\_

\_\_\_\_\_

14. By 1995 vocational programming for trainable mentally retarded people in this province will be based on full scale assessments (educational, psychological, social, vocational, and medical) and not predicated on medical diagnosis, solely.

1 2 3 4 1 2 3 4

low Desirability high low Feasibility high

Your comment:

15. By 1995 governments (provincial and federal) will have been required to improve and enforce regulations, acts and agreements to provide vocational services for trainable mentally retarded people in this province.

1 2 3 4 1 2 3 4

low Desirability high low Feasibility high

Your comment:

16. By 1995 government funding (including federal, provincial and/or local) will have increased, leading to eventual full financial coverage for vocational services.

1      2      3      4                      1      2      3      4  
 |-----|                      |-----|  
 low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

17. The number of trainable mentally retarded people remaining in their own homes and communities by 1995 will have increased because such settings will have received assistance from government programs.

1      2      3      4                      1      2      3      4  
 |-----|                      |-----|  
 low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

18. By 1995 the custodial care model of vocational services (emphasizing the sheltered workshop) will have been replaced in this province by models of active programming (emphasizing a continuum of services).

1 2 3 4

low Desirability high

1 2 3 4

low Feasibility high

Your comment:

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19. By 1995 vocational services for trainable mentally retarded people in this province will operate in conjunction with community-based residential services, allowing freedom of movement among service components (e.g., group home to sheltered industry, sheltered workshop or work oriented rehabilitation center (WORC), cooperative apartment to sheltered industry, sheltered workshop or WORC).

1 2 3 4

low Desirability high

1 2 3 4

low Feasibility high

Your comment:

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20. Program components (e.g. job placement, job stabilization, retraining) will have been developed in this province by 1995 to help trainable mentally retarded people maintain themselves in an enhancing work life.

1 2 3 4

low Desirability high

1 2 3 4

low Feasibility high



Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

21. Being dependent on correspondence between an individual's work personality (abilities and needs) and his/her work environment (required abilities for the job and the reinforcers that job provides), the successful vocational adjustment of trainable mentally retarded individuals in this province by 1995 will have required the implementation of a comprehensive continuum of vocational services.

|       |              |   |      |  |       |             |   |      |
|-------|--------------|---|------|--|-------|-------------|---|------|
| 1     | 2            | 3 | 4    |  | 1     | 2           | 3 | 4    |
| ----- |              |   |      |  | ----- |             |   |      |
| low   | Desirability |   | high |  | low   | Feasibility |   | high |

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

22. By 1995 a range of employment options will have been made available in this province so that work placements can be made which are appropriate for the degree of independence that a given individual demonstrates (e.g. sheltered workshop, sheltered industry, semi-sheltered employment, competitive work with support, competitive employment).

|       |              |   |      |  |       |             |   |      |
|-------|--------------|---|------|--|-------|-------------|---|------|
| 1     | 2            | 3 | 4    |  | 1     | 2           | 3 | 4    |
| ----- |              |   |      |  | ----- |             |   |      |
| low   | Desirability |   | high |  | low   | Feasibility |   | high |

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



23. Vocational services will have become fully integrated in this province by 1995, allowing placement and movement among a variety of services (e.g. WORC to sheltered workshop, sheltered workshop to sheltered industry, school to sheltered workshop).

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

24. By 1995 on-site training in business and industry (the business/industry model) will have become more widely established in the province as a basis for training and placement of trainable mentally retarded people.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

25. By 1995 total service planning will have become incumbent upon service providers in this province and will include the establishment of goals, the procedures for achieving them and evaluation to determine if the intended result has been achieved.

1      2      3      4                      1      2      3      4  
 ────┴───┴───┴───┴───                      ────┴───┴───┴───┴───  
 low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

26. A number of employment principles (e.g., pay reflecting performance, normal working hours, training-employment distinction) will have become essential to the success of work placements of trainable mentally retarded people in this province by 1995.

1      2      3      4                      1      2      3      4  
 ────┴───┴───┴───┴───                      ────┴───┴───┴───┴───  
 low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

27. By 1995 community groups in this province will have become extensively involved with government in the initiation, development and implementation of policies and services.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

28. Clearer understanding by parents, professionals and employers regarding the employability of trainable mentally retarded people will have become more firmly established in this province by 1995.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

29. By 1995 service providers and planners in this province will have been required to establish standards for the various community-based vocational services.

1 2 3 4 1 2 3 4  
|-----| |-----|  
low Desirability high low Feasibility high

Your comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

30. By 1995 governments (provincial and federal) will have been required to define and explore methods and strategies to obtain the coordination of services and professionals.

1 2 3 4 1 2 3 4  
|-----| |-----|  
low Desirability high low Feasibility high

Your comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

31. Service providers in this province by 1995 will have assumed responsibility for every individual's life career developments, even after leaving the school environment.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

32. By 1995 service providers in this province will have been required to develop individual personalized programs in educational, rehabilitational and other settings to meet the needs of their clients.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



33. By 1995 governments (federal and provincial) will have been required to define and explore methods to improve the accountability of service providers.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

34. Service providers in this province will have adopted a systems model approach involving all service delivery areas by 1995.

1      2      3      4                      1      2      3      4  
|-----|                      |-----|  
low   Desirability   high                      low   Feasibility   high

Your comment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



35. By 1995 programs and facilities for trainable mentally retarded people in this province will have become fully integrated into the community and include functional, personal, societal and organizational integration.

1 2 3 4 1 2 3 4  
low Desirability high low Feasibility high

Your comment:

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APPENDIX E

ROUND TWO LETTER TO PARTICIPANTS

DELPHI STUDY  
ROUND TWO

P.O. Box 375  
Gander, Newfoundland  
November 30, 1981

Dear Sir/Madam:

A sincere thank you for your response to the round one Delphi questionnaire entitled, Future Directions in the Field of Vocational Services for Trainable Mentally Retarded People in Newfoundland and Labrador. Enclosed please find two copies of the round two Delphi questionnaire.

Your round one ratings and comments have been carefully considered and group responses have been determined. These responses are reflected in each item/statement of the enclosed second round questionnaire. Further information and instructions are included with the second round questionnaire.

Once again, thank you for your time and cooperation.

Sincerely,

Charles Hillier  
Project Coordinator

APPENDIX F  
ROUND TWO INSTRUCTIONS

## DELPHI STUDY

## ROUND TWO

Your Code \_\_\_\_\_

Return Date \_\_\_\_\_

Specific Instructions for this Questionnaire

- (1) You have been provided with two copies of the second round questionnaire. Please complete both copies, but return only one (Copy 2). The other (Copy 1) should be kept for your reference in the final round.
- (2) If possible, please return Copy 2 within two weeks after the questionnaire reaches you. A stamped return-addressed envelope is enclosed for this purpose.
- (3) You are asked to review the answers generated by the first round questionnaire. These answers, as well as your comments, have been integrated into the second round questionnaire. Some of the first round items/statements have been altered or re-written; however, the intent of each remains unchanged. Included with each statement are the data from round one and a representative comment from those whose rating fell within the interquartile range (I.Q.R.). The data are as follows:
  - (a) Your Rating  
The rating indicated by you on the first round questionnaire. It is represented on each rating scale by / .
  - (b) Median  
The group's average rating score on round one (representing the group response). It is represented on each rating scale by X .
  - (c) Interquartile Range (I.Q.R.)  
A measure of the group's response variability. It indicates the score range of the central group response (the middle fifty percent of the respondents lying between the 25th and 75th percentiles). The I.Q.R. is represented on each rating scale by brackets ( ) .
- (4) You are asked to consider the information generated from round one and reforecast, that is, reconsider your original



rating in light of the group judgement. You are also encouraged to make written comments. If your round one rating is significantly different from that of the group (the median) and falls outside the interquartile range (I.Q.R.), you are encouraged to supply reasons for this stand and/or to reforecast. To assist with your identification of such items/statements they have been marked with an asterik (\*).

- (5) As a respondent you have the following options with respect to each question:
- (a) You may respond to the statement as written.
  - (b) You may choose not to respond to a statement if you feel your judgement would be "risky," "unreliable," or "you don't know."
  - (c) You may choose to rewrite a particular statement and re-respond to your version if you feel the original is misleading.
  - (d) You may suggest additional statements/topics you would like to see in the final round of the exercise if you feel that they would clarify an issue or raise a new alternative that the group should consider.
  - (e) You may consult with associates and use other information sources; however, you should respond as an individual and not as a spokesman for a particular group.
  - (f) You may, and are encouraged to, express short arguments or comments on any judgement or response about which you feel confident. This may include information items that lead you to this judgement. ✓
- (6) You are asked to respond to each statement with regard to two scales as follows:



Scale 1

## Desirability (Effectiveness or Benefits)

| Rating | Level                 | Description  |
|--------|-----------------------|--|
| 1      | Extremely Undesirable | will have a major negative effect harmful, not justifiable                                     |
| 2      | Undesirable           | will have a negative effect, harmful justifiable only as a by-product of a very desirable item |
| 3      | Desirable             | will have a positive effect, beneficial justifiable in conjunction with other factors          |
| 4      | Extremely Desirable   | will have a major positive effect extremely beneficial justifiable on its own merits           |

Scale 2

## Feasibility (Practicality)

| Rating | Level                 | Description   |
|--------|-----------------------|---|
| 1      | Definitely Unfeasible | all indications are negative<br>cannot be implemented<br>unworkable   |
| 2      | Possibly Unfeasible   | some indications are negative<br>some indications this is unworkable<br>significant unanswered questions  |
| 3      | Possibly Feasible     | some indications this is implement-<br>able.<br>some research and development still<br>required.<br>further consideration or preparation<br>to be given to political or public<br>reaction. |
| 4      | Definitely Feasible   | no hindrance to implementation<br>no research and development required<br>no political roadblocks<br>acceptable to the public   |

Please use the above scales as ordinal scales from which one value can be chosen to indicate your view of desirability/feasibility. Low numbers are used to express a low degree of desirability/feasibility while high numbers are used to express a high degree of desirability/feasibility. For each item/statement please circle the number which nearest represents your view/judgement.

Please keep the above scales in mind when suggesting alternate or additional items/statements for consideration by the group.

APPENDIX G  
ROUND TWO QUESTIONNAIRE

## DELPHI STUDY

## ROUND TWO

Your Code \_\_\_\_\_

Return Date December 21, 1981

6. A progressive educational/developmental service network involving elementary and secondary schools will be in place in this province by 1995.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.74  
 I.Q.R. 3.2 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.77  
 I.Q.R. 2.7 - 3.1

Representative Comment: Although future developments will certainly be affected by economic conditions, i.e. off-shore developments and the extent of 'backlash' to deinstitutionalization; there are indications that this is implementable and we are moving in this direction by developing services in the present continuum of educational and vocational services.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

7. By 1995 school-based vocational education programs, e.g. work study, work experience will have become an integral part of our educational programming for trainable mentally retarded students.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.75  
 I.Q.R. 3.5 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.96  
 I.Q.R. 2.8 - 3.2

Representative Comment: Such programs are very justifiable and there are some indications that they are implementable even in rural areas .... they should go hand in hand with life skills programming.

Comment : \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

8. By 1995 this province's vocational schools will have implemented and/or modified training programs to include programming for trainable mentally retarded students.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.66  
 I.Q.R.      3.1 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.64  
 I.Q.R.      2 - 3.1

Representative Comment: This is starting to happen now; however, to make it happen in a meaningful and successful way a very organized effort is needed on the part of education and should include the provision of considerable human and material resources.

Comment: \_\_\_\_\_

9. The principle of Normalization, "utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics, which are as culturally normative as possible" (Wolfensberger, 1972, p. 28) will have been established and accepted by service providers as an important rule of thumb in this province's vocational service delivery by 1995.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.68  
 I.Q.R.      3.1 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.72  
 I.Q.R.      2.1 - 3.1

Representative Comment: All people have a right to the privileges and benefits associated with living in the mainstream of society; however, a massive public education program is needed to pave the way.

Comment: \_\_\_\_\_



10. By 1995 the developmental model (every person has the capacity to learn, to grow and to develop) will be extensively used in this province's vocational service delivery.

1 2 3 4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.84  
 I.Q.R. 3.8 - 4.0

1 2 3 4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.7  
 I.Q.R. 2.1 - 3.1

Representative Comment: A real change in teacher training and attitudes is needed..... this is already starting to happen, i.e. M.U.N. courses, in-service training.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

11. Improved economic conditions will have had an impact on service delivery in this province by 1995.

1 2 3 4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.86  
 I.Q.R. 3.8 - 4.0

1 2 3 4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.8  
 I.Q.R. 2.1 - 3.2

Representative Comment: The impending oil boom should create positive economic conditions that will enhance the development of a comprehensive service continuum; however, there will be great competition for funds.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



12. Specific program components, e.g. trainee recruitment, selection processing, will have been developed in this province by 1995 to help mentally retarded individuals come in contact with and learn to make use of the various vocational services that are available.

|                  |   |   |   |                  |   |   |   |
|------------------|---|---|---|------------------|---|---|---|
| 1                | 2 | 3 | 4 | 1                | 2 | 3 | 4 |
| (X)              |   |   |   | (X)              |   |   |   |
| Desirability     |   |   |   | Feasibility      |   |   |   |
| Your Rating      |   |   |   | Your Rating      |   |   |   |
| Median 3.84      |   |   |   | Median 2.86      |   |   |   |
| I.Q.R. 3.8 - 4.0 |   |   |   | I.Q.R. 2.2 - 3.2 |   |   |   |

Representative Comment: This is already beginning to happen; however, it will take a long time to reduce the gap between theory and practice.

Comment:

13. Community-based vocational training programs, e.g. pre-vocational vocational exploration, skill training, work adjustment, personal adjustment, and vocational evaluation will have been extensively developed in this province by 1995.

|                  |   |   |   |                  |   |   |   |
|------------------|---|---|---|------------------|---|---|---|
| 1                | 2 | 3 | 4 | 1                | 2 | 3 | 4 |
| (X)              |   |   |   | (X)              |   |   |   |
| Desirability     |   |   |   | Feasibility      |   |   |   |
| Your Rating      |   |   |   | Your Rating      |   |   |   |
| Median 3.92      |   |   |   | Median 2.84      |   |   |   |
| I.Q.R. 3.8 - 4.0 |   |   |   | I.Q.R. 2.2 - 3.2 |   |   |   |

Representative Comment: Although each year we make more progress, further developments will depend on improved resources, i.e. personnel, facilities, equipment, and materials and also include the use of existing facilities.

Comment:

14. By 1995 vocational programming for trainable mentally retarded people in this province will be based on full scale assessments (educational, psychological, social, vocational, and medical) and not predicated on medical diagnosis, solely.

1      2      3      4

(X)

Desirability

Your Rating

Median      3.87

I.Q.R.      3.8 - 4.0

1      2      3      4

(X)

Feasibility

Your Rating

Median      3.05

I.Q.R.      2.8 - 3.2

Representative Comment: Individualized programming is inevitable and must include multi-disciplinary assessment; however, services are presently limited in scope and need to be expanded.

Comment:

15. By 1995 governments (provincial and federal) will have been required to improve and enforce regulations, acts, and agreements to provide vocational services for trainable mentally retarded people in this province

1      2      3      4

(X)

Desirability

Your Rating

Median      3.63

I.Q.R.      3.1 - 4

1      2      3      4

(X)

Feasibility

Your Rating

Median      2.96

I.Q.R.      2.8 - 3.2

Representative Comment: Legislation should be improved before enforcement, and should respond to the needs of all individuals - changing the regulations is the easy part compared to changing public attitudes.

Comment:

16. By 1995 government funding (including federal, provincial and/or local) will have increased, leading to eventual full financial coverage for vocational services.

|                  |   |   |   |                  |   |   |   |
|------------------|---|---|---|------------------|---|---|---|
| 1                | 2 | 3 | 4 | 1                | 2 | 3 | 4 |
| <hr/>            |   |   |   | <hr/>            |   |   |   |
| (X)              |   |   |   | (X)              |   |   |   |
| Desirability     |   |   |   | Feasibility      |   |   |   |
| Your Rating      |   |   |   | Your Rating      |   |   |   |
| Median 3.76      |   |   |   | Median 2.81      |   |   |   |
| I.Q.R. 3.7 - 4.0 |   |   |   | I.Q.R. 2.2 - 3.2 |   |   |   |

Representative Comment: Although also dependent upon public education, economic conditions, and job placement possibilities, full financial coverage will lead to the best possible level of services.

Comment:

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17. The number of trainable mentally retarded people remaining in their own homes and communities by 1995 will have increased because such settings will have received assistance from government programs.

|                  |   |   |   |                  |   |   |   |
|------------------|---|---|---|------------------|---|---|---|
| 1                | 2 | 3 | 4 | 1                | 2 | 3 | 4 |
| <hr/>            |   |   |   | <hr/>            |   |   |   |
| (X)              |   |   |   | (X)              |   |   |   |
| Desirability     |   |   |   | Feasibility      |   |   |   |
| Your Rating      |   |   |   | Your Rating      |   |   |   |
| Median 3.84      |   |   |   | Median 2.96      |   |   |   |
| I.Q.R. 3.8 - 4.0 |   |   |   | I.Q.R. 2.8 - 3.2 |   |   |   |

Representative Comment: We have seen immense improvements in this area since 1977 - further improvements will depend upon economic conditions and public attitudes and priorities.

Comment:

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18. By 1995 the custodial care model of vocational services emphasizing the sheltered workshop will have been replaced by a model/s emphasizing a continuum of services.

1      2      3      4  
 \_\_\_\_\_ ( X ) \_\_\_\_\_

Your Rating \_\_\_\_\_  
 Median      3.57  
 I.O.R.      3 - 4

1      2      3      4  
 \_\_\_\_\_ ( X ) \_\_\_\_\_

Your Rating \_\_\_\_\_  
 Median      2.69  
 I.O.R.      2.1 - 3.1

Representative Comment: The sheltered workshop is only one part of the continuum of services - a continuum of services provides training suitable to client needs and individualized programming. The employment situation will be a major factor.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

19. By 1995 vocational services for trainable mentally retarded people will operate in conjunction with community-based residential services, allowing freedom of movement between service components, e.g. group home to sheltered industry, sheltered workshop, or work oriented rehabilitation center (WORC); cooperative apartment to sheltered industry, sheltered workshop or WORC.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.86  
 I.O.R.      3.8 - 4.0

1      2      3      4  
 \_\_\_\_\_ ( X ) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.83  
 I.O.R.      2.1 - 3.2

Representative Comment: This is already starting to happen in some larger centers; however, it would be difficult to accomplish this in smaller communities where services are more regional-based than community-based - at any rate cooperation and coordination are essential.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

20. Program components, e.g. job placement, job stabilization, retraining will have been developed in this province by 1995 to help trainable mentally retarded people maintain themselves in an enhancing work life.

1 2 3 4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.89  
 I.Q.R. 3.8 - 4.0

1 2 3 4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.84  
 I.Q.R. 2.2 - 3.2

Representative Comment: Everyone should be afforded the opportunity to become contributing and self-supporting members of society - more vocal demands can help in competing for funds to expand services.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

21. By 1995 the successful vocational adjustment of trainable mentally retarded people in this province will have required the implementation of a comprehensive continuum of vocational services.

1 2 3 4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.85  
 I.Q.R. 3.8 - 4.0

1 2 3 4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.98  
 I.Q.R. 2.8 - 3.2

Representative Comment: The matching of client needs and abilities is nothing but positive; however, funding is a major key with the cost of programs at approximately \$100,000.00 per unit.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

22. A range of employment options will be available to trainable mentally retarded people in this province by 1995 so that work placements can be made which are appropriate for the degree of independence that a given individual demonstrates, e.g. sheltered workshop, sheltered industry, semi-sheltered employment, competitive work with support, competitive employment.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_

Desirability

Your Rating \_\_\_\_\_  
 Median      3.92  
 I.Q.R.      3.8 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_

Feasibility

Your Rating \_\_\_\_\_  
 Median      2.69  
 I.Q.R.      2.1 - 3.1

Representative Comment: Vocational training is useless unless appropriate employment options are provided ..... because we must plan to include rural areas a great deal will depend on improved economic conditions, i.e. the oil boom.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

23. Vocational service delivery in this province by 1995 will allow placement and movement among/between a variety of services, e.g. WORC to sheltered workshop, sheltered workshop to sheltered industry, school to sheltered workshop.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_

Desirability

Your Rating \_\_\_\_\_  
 Median      3.82  
 I.Q.R.      3.8 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_

Feasibility

Your Rating \_\_\_\_\_  
 Median      2.6  
 I.Q.R.      2 - 3

Representative Comment: Placement and movement should have as a priority the use of existing places of employment and training - integration and coordination of services will lead to more effective service delivery.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



24. By 1995 on-site training in business and industry will have become established in this province as a basis for training and placement of trainable mentally retarded people.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.79  
 I.Q.R.      3.7 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.81  
 I.Q.R.      2.2 - 3.2

Representative Comment: This is in direct keeping with the normalization principle and the provision of a continuum of services; however, a great deal will depend on the attitudes of business and industry as well as the employment situation.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

25. By 1995 total service planning will have become incumbent upon service providers in this province and will include the establishment of goals, the procedures for achieving them, and evaluation to determine if the intended result has been achieved.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.79  
 I.Q.R.      3.7 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3.07  
 I.Q.R.      2.9 - 3.2

Representative Comment: Rapidly increasing professional awareness and improved cooperation and coordination between agencies will help bring this about; however, obtaining appropriate services is often the most difficult part.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

26. A number of accepted employment principles, e.g. pay reflecting performance, normal working hours, training-employment distinction, will have become essential to the success of work placements for trainable mentally retarded people in this province by 1995.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.69  
 I.Q.R.      3 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.94  
 I.Q.R.      2.8 - 3.2

Representative Comment: Newfoundland should follow national and international trends in this regard - public education programs and work placement sites are essential.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

27. By 1995 community groups in this province will have become extensively involved with government in the initiation, development and implementation of policies and services.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.76  
 I.Q.R.      3.7 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3.24  
 I.Q.R.      2.9 - 3.9

Representative Comment: Community groups have been working with mentally retarded people for a long time - policies development and implementation should include input from the grass roots level; however, government can't completely give over the reins.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

28. Clearer understanding by parents, professionals and employers regarding the employability of trainable mentally retarded people will have become more firmly established in this province by 1995.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.89  
 I.Q.R.      3.8 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3.25  
 I.Q.R.      2.9 - 3.9

Representative Comment: Such understanding will help to make better services available ..... with public education and leadership we should see great gains in this area.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

29. By 1995 service providers and planners in this province will have been required to establish standards for the various community-based vocational services.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.85  
 I.Q.R.      3.8 - 4.0

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3.23  
 I.Q.R.      2.9 - 3.9

Representative Comment: If new approaches are to be effective standards should be developed before program implementation - establishment of standards in any service delivery system is positive.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

30. By 1995 governments (provincial and federal) will have been required to define and explore methods and strategies to obtain the coordination of services and professionals.

1 2 3 4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.77  
 I.Q.R. 3.7 - 4.0

1 2 3 4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 3.04  
 I.Q.R. 2.8 - 3.2

**Representative Comment:** This is absolutely essential if we are to reach our final goal ..... a well defined scheme is required to make it work.

**Comment:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

31. Service providers in this province by 1995 will have assumed responsibility for every individual's life career developments, even after leaving the school environment.

1 2 3 4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median 2.92  
 I.Q.R. 2.1 - 4

1 2 3 4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.33  
 I.Q.R. 1.9 - 3

**Representative Comment:** This should be explored more fully - responsibilities must be clarified and we must be careful not to stifle the independence we are trying to provide.

**Comment:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

32. By 1995 service providers in this province will have been required to develop individualized programs in educational, rehabilitational, and other settings to meet the needs of their clients.

1      2      3      4  
 ————— (X) ————  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.58  
 I.Q.R.      3.1 - 4.0

1      2      3      4  
 ————— (X) ————  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.69  
 I.Q.R.      2.1 - 3.2

Representative Comment: Comprehensive individual service provision is the key to effective service delivery; however, resources must be provided, e.g. training, materials.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

33. By 1995 governments (provincial and federal) will have been required to define and explore methods to improve the accountability of service providers.

1      2      3      4  
 ————— (X) ————  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.78  
 I.Q.R.      3.7 - 4.0

1      2      3      4  
 ————— (X) ————  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3.15  
 I.Q.R.      2.9 - 3.2

Representative Comment: Governments, as well as the public, are moving more and more into demanding accountability - any service system cannot exist in a vacuum, therefore some method of accountability must be installed and must include the involvement of consumer and advocate groups.

Comment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

34. By 1995 service providers and planners in this province will have adopted a systems approach that involves all service delivery areas, e.g. social services, health, education, employment and immigration, rehabilitation, in modeling both the existing service system and the ideally improved service system.

1 2 3 4

(X)  
Desirability

Your Rating

Median

3.7

I.Q.R.

3.2 - 4

1 2 3 4

(X)  
Feasibility

Your Rating

Median

2.9

I.Q.R.

2.8 - 3.2

Representative Comment: This is inevitable unless there is economic and social collapse. It requires the co-operation and coordination of all segments of the service delivery system.

Comment:

35. By 1995 programs and facilities for trainable/mentally retarded people in this province will be fully integrated into the community and include functional, societal, personal, and organizational integration.

1 2 3 4

(X)  
Desirability

Your Rating

Median

3.64

I.Q.R.

3.1 - 4

1 2 3 4

(X)  
Feasibility

Your Rating

Median

2.6

I.Q.R.

2.1 - 3.1

Representative Comment: This is a great concept and we are moving in this direction; however, extensive public education programs are needed. Public and political realities will be major factors.

Comment:



APPENDIX H  
ROUND THREE LETTER TO PARTICIPANTS

DELPHI STUDY  
ROUND THREE

Delphi Study  
P.O. Box 375  
Gander, Newfoundland  
March 5, 1982

Dear Sir/Madam:

Thank you for your continued response to this Delphi Study. Enclosed please find the third and final round questionnaire. Specific instructions for the completion of the questionnaire are provided on a separate sheet. After I receive the third round questionnaires, I will compile a final report and forward a copy to you.

Once again, I sincerely thank you for participating in this study. I realize that the exercise has been time consuming for you and I deeply appreciate your efforts. This experience has been a very valuable one for me, and I hope that there has been some value in it for you.

Sincerely yours,

Charles Hillier  
Project Co-ordinator

CH/ms  
Encl.

APPENDIX I

ROUND THREE INSTRUCTIONS

DELPHI STUDY  
ROUND THREE

Specific Instructions for this Questionnaire

1. You have been provided with two copies of the third round questionnaire. Please complete both copies, but return only one. The second copy should be retained by you for your future reference.
2. If possible, please return Copy 2 within three weeks after the questionnaire reaches you. A stamped return-addressed envelope is enclosed for this purpose.
3. You are asked to review the answers generated by the first and second round questionnaires. These answers, as well as your comments and reasons have been integrated into the third round questionnaire. Included with each statement is the data from round two as follows:
  - (a) Your Rating  
This is the rating indicated by you on the second round questionnaire. In instances where participants stated that they agreed with the group response, the group median was assigned as their rating for that particular scale by a / .
  - (b) Median  
This is the group's average rating score on round two (representing the group response). The median is represented on each rating scale by X.
  - (c) Interquartile Range (I.Q.R.)  
This is a measure of the group's response variability. The interquartile range indicates the score range of the central group response (the middle 50 percent of the respondents lying between the 25th and 75th percentiles). The I.Q.R. is represented on each rating scale by brackets ( ).
4. You are asked to consider the information generated from rounds one and two and, if you wish, to reconsider your rating. To assist in your reconsideration, the following are included with each statement.
  - (1) REPRESENTATIVE COMMENTS:  
Round 1: Sample comments from those whose round one rating fell inside the interquartile range.  
Round 2: Sample comments from those whose round two rating fell inside the interquartile range.

(2) REASONS:

Sample reasons from those whose second round rating fell outside the interquartile range (where applicable). These reasons are supplied by participants whose rating fell outside the interquartile in at least one of the following categories:

- (a) Above Desir. I.Q.R.  
- above or to the right of the interquartile range on the Desirability scale.
- (b) Below Desir. I.Q.R.  
- below or to the left of the interquartile range on the Desirability scale.
- (c) Above Feas. I.Q.R.  
- above or to the right of the interquartile range on the Feasibility scale.
- (d) Below Feas. I.Q.R.  
- below or to the left of the interquartile range on the Feasibility scale.

Based on these arguments and counter-arguments you are asked to please do one of the following:

- (i) If you are satisfied with your rating circle it.
- (ii) If you wish to change your rating so that it is in line with the group rating circle the median rating.
- (iii) If you wish to otherwise change your rating write your new rating on the appropriate rating scale line.

For those whose second round rating lies outside the interquartile range and who do not wish to change their rating, a response is requested in the form of a counter-argument stating why the majority argument in favour of a different answer was not persuasive.

To assist with your identification of items where your rating falls outside the interquartile range, I have marked the item number with an (\*).

**NOTE:** In a few cases participants stated that they agreed with the group response (the median); however, after the round two data was compiled their rating fell outside the interquartile range. In such cases these people are asked to reconsider their second round rating in light of the new group response.

You are asked to respond to each statement with regard to two scales as follows:

Scale 1

Desirability (Effectiveness or Benefits)

| Rating | Level                 | Description   |
|--------|-----------------------|---|
| 1      | Extremely Undesirable | will have a major negative effect; will be harmful and not justifiable.                                     |
| 2      | Undesirable           | will have a negative effect; will be harmful and justifiable only as a by-product of a very desirable item. |
| 3      | Desirable             | will have a positive effect; will be beneficial and is justifiable in conjunction with other factors.       |
| 4      | Extremely Desirable   | will have a major positive effect; will be extremely beneficial and justifiable on its own merits.          |



## Scale 2

## Feasibility (Practicality)

| Rating | Level                 | Description   |
|--------|-----------------------|---|
| 1      | Definitely Unfeasible | all indications are negative, cannot be implemented and it is unworkable.   |
| 2      | Possibly Unfeasible   | some indications are negative; some indications are that this is unworkable and that there are significant unanswered questions.  |
| 3      | Possibly Feasible     | some indications are that this is implementable;<br>some research and development is still required;<br>further consideration is to be given to political and public reactions. |
| 4      | Definitely Feasible   | there is no hindrance to implementation; no research and development is required; there are no political roadblocks; it is acceptable to the public.                            |

APPENDIX J  
ROUND THREE QUESTIONNAIRE

DELPHI STUDY  
ROUND THREE

6. A progressive educational/developmental service network involving elementary and secondary schools will be in place in this province by 1995.

|              |   |   |    |             |   |    |   |
|--------------|---|---|----|-------------|---|----|---|
| 1            | 2 | 3 | 4  | 1           | 2 | 3  | 4 |
|              |   |   | X) |             |   | X) |   |
| Desirability |   |   |    | Feasibility |   |    |   |
| Your Rating  |   |   |    | Your Rating |   |    |   |
| Median       |   |   |    | Median      |   |    |   |
| 3.8          |   |   |    | 2.8         |   |    |   |
| I.Q.R.       |   |   |    | I.Q.R.      |   |    |   |
| 3.8 - 4      |   |   |    | 2.8 - 3.1   |   |    |   |

REPRESENTATIVE COMMENTS:

Round 1: Although future developments will certainly be affected by economic conditions and the extent of 'backlash' to deinstitutionalization, there are indications that this is implementable. We are moving in this direction by developing in the present continuum of educational and vocational services.

Round 2: If future developments are positive, we hope that such services will represent some of the benefits.

REASONS:

Below Desir. I.Q.R.: Progressive is a technical educational term - as we become more conservative, the service network will become less progressive. Economic developments will decide this.

Above Feas. I.Q.R.: Improved economic conditions will speed up and improve services.

Below Feas. I.Q.R.: The economic boom cannot be taken for granted. Students are still being segregated. Desirable, but probably not practical.

COMMENT:

7. By 1995 school-based vocational education programs, e.g. work study, work experience, will have become an integral part of our programming for trainable mentally retarded students.

1      2      3      4  
 \_\_\_\_\_ (\*)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      4  
 I.Q.R.      39.8 - 4

1      2      3      4  
 \_\_\_\_\_ (\*)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3  
 I.Q.R.      2.8 - 3.2

#### REPRESENTATIVE COMMENTS:

Round 1: Such programs are very justifiable, and there are indications that they are implementable even in rural areas.

Round 2: Newfoundland is presently getting requests from all over Canada for its work study curriculum.

#### REASONS:

Above Feas. I.Q.R.: Many school boards have already initiated such programs. The quicker these programs are initiated, the better. Expanded support services will help. Such programs would benefit mentally retarded people as well as normal people.

Below Feas. I.Q.R.: There are too many sociological and economic factors which work against its becoming an integral part. Rural areas will present problems. A wide business/work base is needed. It will also need a great deal of effort.

#### COMMENT:

8. By 1995 this province's vocational schools will have implemented and/or modified training programs to include programming for trainable mentally retarded students.

1      2      3      4  
 \_\_\_\_\_ (\*)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.8  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ (\*)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.8  
 I.Q.R.      2.3 - 3.1

#### REPRESENTATIVE COMMENTS:

Round 1: This is starting to happen now; however, to make it happen in a meaningful and successful way, a very organized effort is needed on the part of education and should include the provision of considerable human and material resources.

Round 2: Many people will have to be educated, especially parents. More funding and manpower will come with the improved economic conditions that are expected from the production of oil.

REASONS:

Below Desir. I.Q.R.: This is only desirable with a strong commitment.

Above Feas. I.Q.R.: This is very feasible with federal support and modified legislation.

Below Feas. I.Q.R.: Most vocational schools are out of reach for such students. More educational programs are needed for resource people. Enrollment numbers will be a problem.

COMMENT:

9. The principle of Normalization, "utilization of means which are as culturally normative as possible, in order to establish and/or maintain personal behaviors and characteristics, which are as culturally normative as possible" (Wolfensberger, 1972, p. 28), will have been established and accepted by service providers as an important rule of thumb in this province's vocational service delivery by 1995.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.9  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.9  
 I.Q.R.      2.6 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: All people have a right to the privileges and benefits associated with living in the mainstream of society; however, a massive public education program is needed to pave the way.

Round 2: More available and suitable job placement sites will result from improved economic conditions.

REASONS:

Above Feas. I.Q.R.: 15 years is enough time to implement such a fair and justifiable concept as normalization. By 1995 we should have the financial base to provide material resources.

Below Feas. I.Q.R.: This is a matter of attitude which



doesn't change because of legal requirements. It's doubtful that the money will be spent on public education.

COMMENT:

---



---

10. By 1995 the developmental model (every person has the capacity to learn, to grow, and to develop throughout life) will be extensively used in this province's vocational service delivery.

1      2      3      4

(X)

Desirability

Your Rating

Median      3.9

I.Q.R.      3.8 - 4.0

1      2      3      4

(X)

Feasibility

Your Rating

Median      2.8

I.Q.R.      2.6 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: A real change in teacher training and attitudes is needed. This is already starting to happen, i.e. M.U.N. courses, in-service training.

Round 2: Pressure from concerned groups and improved economic conditions will help bring this about. The myths associated with mental retardation must be dispelled.

REASONS:

Above Feas. I.Q.R.: Feasibility is largely the will to make it happen. The attitudes of the general public can and must change.

Below Feas. I.Q.R.: Attitude change is the key - models are quite separate. Progress will be slow. Much more insight is needed into disadvantaged groups, i.e. Inuit, Eskimos.

COMMENT:

---



---

11. Improved economic conditions will have had an impact on service delivery in this province by 1995.

1      2      3      4

(X)

Desirability

1      2      3      4

(X)

Feasibility



Your Rating  
 Median 3.9  
 I.Q.R. 3.9 - 4

Your Rating  
 Median 2.9  
 I.Q.R. 2.8 - 3.2

REPRESENTATIVE COMMENTS:

Round 1: The impending oil boom should create positive economic conditions that will enhance the development of a comprehensive service continuum; however, there will be great competition for funds.

Round 2: The competition for funds should also enhance the development and availability of job placement sites. Economic factors are largely out of the hands of service providers.

REASONS:

Above Feas. I.Q.R.: As the provincial wealth increases, government will have more money to spend on service delivery.

Below Feas. I.Q.R.: Economic conditions are not likely to improve significantly because of the oil boom. It will be at least 20 years before the oil boom has any positive effects. Socio-economic effects will be more negative than positive.

COMMENT:

12. Specific program components, e.g. trainee recruitment, selection processing, will have been developed in this province by 1995 to help mentally retarded individuals come in contact with and learn to make use of the various vocational services that are available.

1 2 3 4  
 (X)

Desirability

Your Rating  
 Median 4  
 I.Q.R. 3.9 - 4

1 2 3 4  
 (X)

Feasibility

Your Rating  
 Median 3  
 I.Q.R. 2.8 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: This is already starting to happen; however, it will take a long time to reduce the gap between theory and practice.

Round 2: Training selection committees are presently being formed to place such people in touch with vocational services.

REASONS:

Above Feas. I.Q.R.: Haven't we already accepted this notion for all students?

Below Feas. I.Q.R.: This will not be applicable to rural areas.

COMMENT:

13. Community-based vocational training programs, e.g. pre-vocational exploration, skill training, work adjustment, personal adjustment, and vocational evaluation, will have extensively developed in this province by 1995.

|              |   |   |   |             |   |   |   |
|--------------|---|---|---|-------------|---|---|---|
| 1            | 2 | 3 | 4 | 1           | 2 | 3 | 4 |
| Desirability |   |   |   | Feasibility |   |   |   |
| Your Rating  |   |   |   | Your Rating |   |   |   |
| Median       |   |   |   | Median      |   |   |   |
| I.Q.R.       |   |   |   | I.Q.R.      |   |   |   |
| 4            |   |   |   | 2.8         |   |   |   |
| 3.9 - 4      |   |   |   | 2.8 - 3.1   |   |   |   |

REPRESENTATIVE COMMENTS:

Round 1: Although each year we make more progress, further developments will depend on improved resources, i.e. personnel, facilities, equipment, and materials and will also include the use of existing facilities.

Round 2: The International Year of the Disabled has done a lot to make people more aware.

REASONS:

Above Feas. I.Q.R.: Work Oriented Rehabilitation Centers have already proven to be successful.

Below Feas. I.Q.R.: Small centers will not have these services. Such programs will not be extensively developed by 1995. One agency has to be responsible for this group - presently there are too many segmented responsibilities.

COMMENT:

14. By 1995 vocational programming for trainable mentally retarded people in this province will be based on full scale assessments i.e. educational, social, psychological, vocational and

medical assessments, and not predicated on medical diagnosis, solely.

|              |   |   |     |             |   |   |   |
|--------------|---|---|-----|-------------|---|---|---|
| 1            | 2 | 3 | 4   | 1           | 2 | 3 | 4 |
|              |   |   | (X) |             |   | X |   |
| Desirability |   |   |     | Feasibility |   |   |   |
| Your Rating  |   |   |     | Your Rating |   |   |   |
| Median       |   |   |     | Median      |   |   |   |
| I.Q.R.       |   |   |     | I.Q.R.:     |   |   |   |
| 4            |   |   |     | 3.1         |   |   |   |
| 3.9 - 4      |   |   |     | 2.9 - 3.2   |   |   |   |

#### REPRESENTATIVE COMMENTS:

Round 1: Individual programming is inevitable and must include multi-disciplinary assessment; however, services are presently limited in scope and need to be expanded.

Round 2: Full scale assessments are critically important and should include more than medical information; however, in rural areas medical doctors will continue to make these decisions.

#### REASONS:

Above Feas. I.Q.R.: We must reject the medical categorization method of the past. Such a need has been widely recognized already. We are moving in this direction and should expand significantly in the next 15 years.

Below Feas. I.Q.R.: Full scale assessments will not be feasible throughout the province.

#### COMMENT:

15. By 1995 both provincial and federal governments will have been required to improve and enforce regulations, acts, and agreements to provide vocational services for trainable mentally retarded people in this province.

|              |   |   |     |             |   |   |     |
|--------------|---|---|-----|-------------|---|---|-----|
| 1            | 2 | 3 | 4   | 1           | 2 | 3 | 4   |
|              |   |   | (X) |             |   |   | (X) |
| Desirability |   |   |     | Feasibility |   |   |     |
| Your Rating  |   |   |     | Your Rating |   |   |     |
| Median       |   |   |     | Median      |   |   |     |
| I.Q.R.       |   |   |     | I.Q.R..     |   |   |     |
| 3.8          |   |   |     | 3.1         |   |   |     |
| 3.8 - 4      |   |   |     | 2.9 - 3.2   |   |   |     |

#### REPRESENTATIVE COMMENTS:

Round 1: Legislation should be improved before enforcement and should respond to the needs of all individuals. Changing

the regulations is the easy part compared to changing public attitudes.

Round 2: Responding to individual needs is the key. Public attitudes are changing and as conditions improve socially and economically, it will be easier to change attitudes.

REASONS:

Below Desir. I.Q.R.: Changing legislation is possible; however, attitudes are not so easily changed. Regulations may change some attitudes, but not all.

Above Feas. I.Q.R.: By 1995 we will have convinced legislators. A lot of people in Newfoundland are saying the right thing these days.

Below Feas. I.Q.R.: Attitudes will be a long time changing.

COMMENT:

16. By 1995 federal, provincial and/or local government funding will have increased, leading to eventual full financial coverage for vocational services.

| 1              | 2 | 3 | 4 | 1                | 2 | 3 | 4 |
|----------------|---|---|---|------------------|---|---|---|
| (X)            |   |   |   |                  |   |   |   |
| Desirability   |   |   |   | Feasibility      |   |   |   |
| Your Rating    |   |   |   | Your Rating      |   |   |   |
| Median 3.9     |   |   |   | Median 2.8       |   |   |   |
| I.Q.R. 3.8 - 4 |   |   |   | I.Q.R. 2.8 - 3.2 |   |   |   |

REPRESENTATIVE COMMENTS:

Round 1: Full financial coverage will lead to the best possible level of services; however, it is also dependent upon public education, economic conditions, and job placement possibilities.

Round 2: Community support and input are important factors. Money is always the determining factor in providing good services.

REASONS:

Below Desir. I.Q.R.: There should be a place for individual/group non-government initiative - those who pay for the services make the decisions.

Above Feas. I.Q.R.: Government funding must increase if we are to get the best level of services. The economic potential is very great.

Below Feas. I.Q.R.: This is only another form of financial dependence for mentally retarded people. Funding will have increased, but will it have increased proportionately with the cost of living? Recent cutbacks in transfer payments for post-secondary education make this doubtful.

COMMENT:

---



---

17. The number of trainable mentally retarded people remaining in their own homes and communities by 1995 will have increased because such settings will have received assistance from government programs.

|                |   |   |     |                  |   |     |   |
|----------------|---|---|-----|------------------|---|-----|---|
| 1              | 2 | 3 | 4   | 1                | 2 | 3   | 4 |
|                |   |   | (x) |                  |   | (x) |   |
| Desirability   |   |   |     | Feasibility      |   |     |   |
| Your Rating    |   |   |     | Your Rating      |   |     |   |
| Median 4       |   |   |     | Median 3.1       |   |     |   |
| I.Q.R. 3.9 - 4 |   |   |     | I.Q.R. 2.9 - 3.2 |   |     |   |

REPRESENTATIVE COMMENTS:

Round 1: We have seen immense improvements in this area since 1977; further improvements will depend upon economic conditions and public attitudes and priorities.

Round 2: More pressure should be put on government to increase its financial commitment. Public attitudes can make the difference.

REASONS:

Above Feas. I.Q.R.: Such programs are already being widely developed. There is a great deal more pressure for family-centered services these days.

Below Feas. I.Q.R.: The aim is financial independence, not dependence.

COMMENT:

---



---

18. By 1995 the custodial care model of vocational services, emphasizing the sheltered workshop, will have been replaced by a model or models emphasizing a continuum of services.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.6  
 I.Q.R.      3.1 - 4

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.8  
 I.Q.R.      2.6 - 3.1

#### REPRESENTATIVE COMMENTS:

Round 1: The sheltered workshop is only one part of the continuum - a continuum of services provides training suitable to client needs and individualized programming. The employment situation will be a big factor.

Round 2: There will always be a need for some form of developmental-dependency model service. Rural communities will be difficult to serve.

#### REASONS:

Below Desir. I.Q.R.: Industrial/business job requirements are becoming more demanding and there is a need for greater amounts of training, education and skill development which are difficult areas for mentally retarded people.

Below Feas. I.Q.R.: In many communities we have not reached the sheltered workshop stage - we should first explore this avenue fully.

#### COMMENT:

19. By 1995 vocational services for trainable mentally retarded people will operate in conjunction with community-based residential services, allowing freedom of movement between service components, e.g. group home to sheltered workshop, sheltered industry, or work oriented rehabilitation center (WORC); co-operative apartment to sheltered workshop, sheltered industry, or WORC.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      4  
 I.Q.R.      3.9 - 4

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.8  
 I.Q.R.      2.7 - 3.1

#### REPRESENTATIVE COMMENTS:

Round 1: This is already starting to happen in some larger centers; however, it would be difficult to accomplish this



in smaller communities where services are more regional-based than community-based - at any rate co-operation and co-ordination are essential.

Round 2: We need to implement services throughout the province. Federal funding is imperative if we are to progress.

REASONS:

Below Feas. I.Q.R.: We must not take things for granted. A variety of services being developed by 1995 is too optimistic. There will still be problems with co-operation and co-ordination.

COMMENT:

20. Program components, e.g. job placement, job stabilization, and retraining, will have been developed in this province by 1995 to help mentally retarded people maintain themselves in an enhancing work life.

| 1              | 2 | 3 | 4 | 1                | 2 | 3 | 4 |
|----------------|---|---|---|------------------|---|---|---|
| (x)            |   |   |   | (x)              |   |   |   |
| Desirability   |   |   |   | Feasibility      |   |   |   |
| Your Rating    |   |   |   | Your Rating      |   |   |   |
| Median 4       |   |   |   | Median 3         |   |   |   |
| I.Q.R. 3.9 - 4 |   |   |   | I.Q.R. 2.8 - 3.2 |   |   |   |

REPRESENTATIVE COMMENTS:

Round 1: Everyone should be afforded the opportunity to become contributing and self-supporting members of society. More vocal demands can help in competing for funds to expand services.

Round 2: We need solid federal involvement.

REASONS:

Above Feas. I.Q.R.: This group reflects the need for more funds - oil dollars may be the solution. Work oriented rehabilitation centers have already proven that mentally retarded adults can become contributing and self-supporting members of society.

COMMENT:

21. By 1995 the successful vocational adjustment of trainable mentally retarded people in this province will have required the implementation of a comprehensive continuum of vocational services.

1      2      3      4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.9  
 I.Q.R.      3.9 - 4

1      2      3      4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.9  
 I.Q.R.      2.8 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: The matching of client needs and abilities is nothing but positive; however, funding is a major key with the cost of programs at approximately \$100,000 per unit.

Round 2: Options are very crucial; however, they will be difficult to provide in rural areas.

REASONS:

Above Feas. I.Q.R.: The availability of suitable job placements is definitely a major factor; however, if students can be made productive the cost of programs will no longer be a major factor.

Below Feas. I.Q.R.: The necessary support systems will not have made this possible. Comprehensiveness is the questionable part. The Vocational Rehabilitation of Disabled Persons regulations need to be altered.

COMMENT:

22. A range of employment options, e.g. sheltered workshop, sheltered industry, semi-sheltered employment, competitive work with support, competitive employment, will be available to trainable mentally retarded people in this province by 1995 so that work placements can be made which are appropriate for the degree of independence that a given individual demonstrates.

1      2      3      4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.9  
 I.Q.R.      3.9 - 4

1      2      3      4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.8  
 I.Q.R.      2.4 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: Vocational training is useless unless appropriate employment options are provided. Because we must plan to include rural areas, a great deal will depend on improved economic conditions, i.e. the oil boom.

Round 2: More federal cost-shared inputs and private sector inputs are needed.

REASONS:

Below Feas. I.Q.R.: A drastic change in attitudes of potential employers is essential to provide the necessary range of employment options. This is not feasible for the whole province. Too much emphasis is being placed on the beneficial aspects of the oil industry.

COMMENT:

23. Vocational service delivery in this province by 1995 will allow placement and movement among a variety of services, e.g. WORC to sheltered workshop, sheltered workshop to sheltered industry, school to sheltered workshop.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.9  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.7  
 I.Q.R.      2.3 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: Placement and movement should have as a priority the use of existing places of employment and training. Integration and co-ordination of services will lead to more effective service delivery.

Round 2: The emphasis must be on integration and not segregation.

REASONS:

Above Feas. I.Q.R.: This is the direction to follow and there should be more placement options by 1995.

COMMENT:

24. By 1995 on-site training in business and industry will have become established in this province as a basis for the training and placement of trainable mentally retarded people.

1      2      3      4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.9  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.9  
 I.Q.R.      2.8 - 3.2

REPRESENTATIVE COMMENTS:

Round 1: This is in direct keeping with the normalization principle and the provision of a continuum of services; however, a great deal will depend on the attitudes of business and industry as well as on the employment situation.

Round 2: This is already starting to happen. Interest is increasing.

REASONS:

Above Feas. I.Q.R.: The improved labour market by 1995 should allow acceptance of such people. The attitudes of business and industry have changed a great deal and there will be more changes in the future - we can convince them. The apprehension is in the mind of educators. This is all a part of developing a continuum of services.

Below Feas. I.Q.R.: Before this takes place we will need more effective education programs for employers.

COMMENT:

25. By 1995 total service planning will have become incumbent upon service providers in this province and will include the establishment of goals, the procedures for achieving them, and evaluation to determine if the intended result has been achieved.

1      2      3      4  
 \_\_\_\_\_ (x)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.8  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ (x)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.9  
 I.Q.R.      2.8 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: Rapidly increasing professional awareness and improved co-operation and co-ordination between agencies will help bring this about; however, obtaining appropriate services is often the most difficult part.

Round 2: Much effort will be required to develop appropriate job placement sites and related services.

REASONS:

Above Feas. I.Q.R.: This pattern has been set and we will see it emulated all across the province and nation. Considering the advances we have made in the last five years, it is very feasible to accomplish this by 1995.

Below Feas. I.Q.R.: This is doubtful with our present level of expertise and resource people.

COMMENT:

26. A number of accepted employment principles, e.g. pay reflecting performance, normal working hours, training-employment distinction, will have become essential to the success of work placements for trainable mentally retarded people in this province by 1995.

1      2      3      4  
 \_\_\_\_\_ (X) \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.8  
 I.Q.R.      3.7 - 4

1      2      3      4  
 \_\_\_\_\_ X \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.8  
 I.Q.R.      2.8 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: Newfoundland should follow national and international trends in this regard. Public education programs and work placement sites are essential.

Round 2: NAPE and CUPE are both concerned about rates now being paid in sheltered workshops.

REASONS:

Below Desir. I.Q.R.: This does not happen with many normal people in Newfoundland and this may very well have to come about for normal people before we see trainable mentally retarded people obtaining work placements.

Above Feas. I.Q.R.: Why not? This is the current trend.

Below Feas. I.Q.R.: Public education is essential if we are to see equality. It may be difficult to match client skills with employment opportunities.

COMMENT: \_\_\_\_\_

27. By 1995 community groups in this province will have become extensively involved with government in the initiation, development, and implementation of policies and services.

1      2      3      4  
 \_\_\_\_\_ ( X )  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.8  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ ( X )  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      3.2  
 I.Q.R.      2.8 - 3.8

REPRESENTATIVE COMMENTS:

Round 1: Community groups have been working with mentally retarded people for a long time - policies development and implementation should include input from the grass roots level; however, government can't completely give over the reins.

Round 2: The community is already approaching government on behalf of mentally retarded people and trying to get support for programs - it has all boiled down to money.

REASONS:

Below Desir. I.Q.R.: Through past performance, community groups have perpetuated dependence and a patronizing status to handicapped people. It will be a long time before a group who controls the purse strings (the government) passes over program control to another group which it has to bargain with.

Above Feas. I.Q.R.: Government will profit from the involvement of community groups, and such groups have already vastly influenced government. There has to be a balance. Government won't have to completely give over control.

Below Feas. I.Q.R.: Government depends on input from professionals - input from community groups is minimal. Government should be giving direction.

COMMENT: \_\_\_\_\_



28. Clearer understanding by parents, professionals, and employers regarding the employability of trainable mentally retarded people will have become firmly established in this province by 1995.

|                |   |   |     |                  |   |     |   |
|----------------|---|---|-----|------------------|---|-----|---|
| 1              | 2 | 3 | 4   | 1                | 2 | 3   | 4 |
|                |   |   | (X) |                  |   | (X) |   |
| Desirability   |   |   |     | Feasibility      |   |     |   |
| Your Rating    |   |   |     | Your Rating      |   |     |   |
| Median 3.9     |   |   |     | Median 3.2       |   |     |   |
| I.Q.R. 3.9 - 4 |   |   |     | I.Q.R. 2.9 - 3.7 |   |     |   |

REPRESENTATIVE COMMENTS:

Round 1: Such understanding will help make better services available. With public education and leadership we should see great gains in this area.

Round 2: The emphasis has to be on public awareness.

REASONS:

Below Desir. I.Q.R.: Much has already been done to develop this understanding. The need isn't as great as it was a few years ago.

Above Feas. I.Q.R.: We have already obtained success in this area. With understanding and co-operation this will happen.

Below Feas. I.Q.R.: This will always be a battle in a province where seasonal employment is the norm.

COMMENT:

29. By 1995 service providers and planners in this province will have been required to establish standards for the various community-based vocational services.

|                |   |   |     |                  |   |     |   |
|----------------|---|---|-----|------------------|---|-----|---|
| 1              | 2 | 3 | 4   | 1                | 2 | 3   | 4 |
|                |   |   | (X) |                  |   | (X) |   |
| Desirability   |   |   |     | Feasibility      |   |     |   |
| Your Rating    |   |   |     | Your Rating      |   |     |   |
| Median 3.9     |   |   |     | Median 3.2       |   |     |   |
| I.Q.R. 3.8 - 4 |   |   |     | I.Q.R. 2.9 - 3.2 |   |     |   |

REPRESENTATIVE COMMENTS:

Round 1: If new approaches are to be effective, standards should be developed before the implementation of the program. Establishment of standards in any service delivery

system is positive.

Round 2: Great strides will have to be made.

REASONS:

Above Feas. I.Q.R.: This is a relatively simple manner. Standards will evolve with service evolution and be subjected to external accreditation.

COMMENT:

30. By 1995 both provincial and federal governments will have been required to define and explore methods and strategies to obtain the co-ordination of services and professionals.

|              |   |   |   |
|--------------|---|---|---|
| 1            | 2 | 3 | 4 |
| (x)          |   |   |   |
| Desirability |   |   |   |

Your Rating \_\_\_\_\_  
 Median 3.9  
 I.Q.R. 3.8 - 4

|             |   |   |   |
|-------------|---|---|---|
| 1           | 2 | 3 | 4 |
| (x)         |   |   |   |
| Feasibility |   |   |   |

Your Rating \_\_\_\_\_  
 Median 3.1  
 I.Q.R. 2.9 - 3.2

REPRESENTATIVE COMMENTS:

Round 1: This is absolutely essential if we are to reach our final goal. A well defined scheme is required to make it work.

Round 2: It is essential for government to do this.

REASONS:

Above Feas. I.Q.R.: It is not a major undertaking. The COMSERV experience will take another 4 or 5 years to germinate - then the whole co-ordination idea will become a nation-wide 'bandwagon'.

Below Feas. I.Q.R.: Co-ordination will be a major problem.

COMMENT:

31. By 1995 service providers in this province will have assumed responsibility for every individual's life career development, even after he has left the school environment.

|              |   |   |   |
|--------------|---|---|---|
| 1            | 2 | 3 | 4 |
| (x)          |   |   |   |
| Desirability |   |   |   |

|             |   |   |   |
|-------------|---|---|---|
| 1           | 2 | 3 | 4 |
| (x)         |   |   |   |
| Feasibility |   |   |   |

Your Rating \_\_\_\_\_  
 Median 3  
 I.Q.R. 2.3 - 3.9

Your Rating \_\_\_\_\_  
 Median 2.4  
 I.Q.R. 1.9 - 2.9

REPRESENTATIVE COMMENTS:

Round 1: This should be explored more fully - responsibilities must be clarified and we must be careful not to stifle the independence we are trying to provide.

Round 2: This should be exercised only to the extent the individual requires help to function independently, otherwise there may be an unwarranted intrusion on the individual's rights.

REASONS:

Below Desir. I.Q.R.: Service providers should not assume responsibility. Self-determinism should also be considered.

Above Feas. I.Q.R.: There will also be a great deal more systematic client monitoring.

COMMENT:

32. By 1995 service providers in this province will have been required to develop individualized programs in education, rehabilitation, and other settings to meet the needs of their clients.

1      2      3      4  
 \_\_\_\_\_  
 Desirability

Your Rating \_\_\_\_\_  
 Median 3.8  
 I.Q.R. 3.8 - 4

1      2      3      4  
 \_\_\_\_\_  
 Feasibility

Your Rating \_\_\_\_\_  
 Median 2.9  
 I.Q.R. 2.8 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: The provision of comprehensive individual services is the key to effective service delivery; however, resources must be provided, e.g. training, materials.

Round 2: Services and resources are necessary and would make this feasible.

REASONS:

Above Feas. I.Q.R.: Such programs are very essential and can be very feasible with appropriate federal and provincial support.

Below Feas. I.Q.R.: The extent of individualization and program development will be determined by the available finances.

COMMENT: \_\_\_\_\_

33. By 1995 both federal and provincial governments will have been required to define and explore methods to improve the accountability of service providers.

1      2      3      4

Desirability (x)

Your Rating \_\_\_\_\_  
Median      3.9  
I.Q.R.      3.8 - 4

1      2      3      4

Feasibility (x)

Your Rating \_\_\_\_\_  
Median      3.1  
I.Q.R.      2.9 - 3.2

REPRESENTATIVE COMMENTS:

Round 1: Governments, as well as the public, are moving more and more into demanding accountability. Any service cannot exist in a vacuum; therefore, some method of accountability must include the involvement of consumer and advocate groups.

Round 2: This should also include input from consumer and advocate groups.

REASONS:

Above Feas. I.Q.R.: Defining and exploring methods will be ultimately more feasible than actual service delivery.

COMMENT: \_\_\_\_\_

34. By 1995 service providers and planners in this province will have adopted a systems approach to service delivery involving all service areas, e.g. social services, health, education, employment and immigration, and modeling both the existing service system and the ideally improved service system.

1      2      3      4

Desirability (x)

Your Rating \_\_\_\_\_  
Median      3.8  
I.Q.R.      3.8 - 4

1      2      3      4

Feasibility (x)

Your Rating \_\_\_\_\_  
Median      3  
I.Q.R.      2.8 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: This is inevitable unless there is economic and social collapse. It requires the co-operation and co-ordination of all segments of the service delivery system.

Round 2: Reports such as the Exxon House report have recommended this.

REASONS:

Above Feas. I.Q.R.: It is inevitable if we are to reach our final goal. The trend now is the team approach.

COMMENT:

35. By 1995 programs and facilities for trainable mentally retarded people in this province will be fully integrated into the community and include functional, societal, personal and organizational integration.

1      2      3      4  
 \_\_\_\_\_ (X)  
 Desirability

Your Rating \_\_\_\_\_  
 Median      3.9  
 I.Q.R.      3.8 - 4

1      2      3      4  
 \_\_\_\_\_ (X)  
 Feasibility

Your Rating \_\_\_\_\_  
 Median      2.8  
 I.Q.R.      2.4 - 3.1

REPRESENTATIVE COMMENTS:

Round 1: This is a great concept and we are moving in this direction; however, extensive public education programs are needed. Public and political realities will be major factors.

Round 2: With an adequate level of funding from the impending oil boom, this concept is workable. We also need some money to put into research.

REASONS:

Below Feas. I.Q.R.: This is highly idealistic for all trainable mentally retarded people. Full integration of programs and facilities on a province-wide basis is questionable.

COMMENT:

























